

1 SUPREME COURT OF THE STATE OF NEW YORK
 2 COUNTY OF KINGS : CIVIL TERM : PART 13

3		X
4	CLYDE ANDERSON and MAXINE ANDERSON,)
)
	Plaintiff,)
5) Index No.
	- against -) 42821/97
6)
	THE AMERICAN TOBACCO COMPANY, LORILLARD)	
7	TOBACCO COMPANY, PHILIP MORRIS)
	INCORPORATED, R.J. REYNOLDS TOBACCO)Jury Trial
8	COMPANY, LIGGETT & MYERS TOBACCO)
	COMPANY, BROWN & WILLIAMSON TOBACCO)
9	CORPORATION, TOBACCO INSTITUTE, INC.)
	and THE COUNCIL FOR TOBACCO RESEARCH-)
10	USA, INC.,)
)
11	Defendants.)
		X

12 Kings Supreme Court
 13 360 Adams Street
 14 Brooklyn, New York
 15 June 12, 2000

16 B E F O R E :

17 HONORABLE HERBERT KRAMER,
 18 Justice, and a Jury.

19 A P P E A R A N C E S : (Same as previously
 20 noted.)

21 DIANE DORSEY
 STEVE KARLIN
 MARK BOWIN

Official Court Reporters

22 -----
 23 (The following takes place in open
 24 court, out of the presence of the jury.)
 25 MS. ROOSEVELT: We are going to hand
 5844

1 Colloquy
 2 the plaintiff the designations for the
 3 exhibits that were used with
 4 Dr. Roger Sharp, and over the weekend we
 5 designated and described for Dr. VonBurg
 6 and also designated Dr. Philips as our
 7 next witness.

8 MR. KACZINSKI: Your Honor, just to
 9 sort of give you an idea of what the
 10 schedule is like for the week, we have
 11 informed the plaintiffs of five
 12 witnesses for this week: Dr. Ludmerer,
 13 Dr. Bradley, Dr. VonBurg, Dr. Sharp, and
 14 Dr. Phillips, in that order; and
 15 although no one has repealed Murphy's
 16 law, anything --

17 THE COURT: Yes.

18 MR. KACZINSKI: Well, not here. If
 19 things go at least relatively smoothly
 20 we anticipate we may rest sometime on
 21 Thursday.

22 MR. FINZ: And under those

23 circumstances, your Honor, if it would
24 be appropriate, if your Honor with the
25 permission and consent of all counsel,

5845

1 Colloquy

2 could possibly so advise the jury so
3 that their restlessness might be put at
4 some kind of -- a little bit at ease.

5 THE COURT: In other words, we are
6 missing one juror. That was number one,
7 who --

8 COURT CLERK: Judge, they were --
9 (Off-the-record discussion.)

10 THE COURT: How long do you want to
11 wait folks, before we do something?

12 MR. LONDON: Should we try calling
13 him, Judge?

14 COURT OFFICER: He's talking to
15 someone now.

16 THE COURT: What's your pleasure?
17 Do you want to consent?

18 MR. RANGLES: Yes, I'll consent.

19 MR. QUIGLEY: We'll consent.

20 MR. FINZ: Your Honor, has he been
21 called?

22 THE COURT: Yes, and no one got any
23 information from him. So we don't know.

24 I think there's a little language,
25 problem at home there too, and I suspect

5846

1 Colloquy

2 you could wait without knowing.

3 MR. FINZ: Has he communicated with
4 the Court itself?

5 THE COURT: Nope.

6 MR. FINZ: He's always been here
7 every day, and perhaps under those
8 circumstances we should just give it a
9 little bit.

10 THE COURT: Do whatever you want?

11 MR. FINZ: Well, you say a language
12 problem. I take it there's nobody there
13 who can converse in English, your Honor?

14 THE COURT: Well, I'm not sure.

15 Charles, what was your -- what kind
16 of communication did you have?

17 COURT CLERK: "Well, he's not here,
18 and we don't know where he is" -- you
19 know.

20 MR. FINZ: He may be on his way.

21 COURT CLERK: I said do you know if
22 he's on his way, and they said we don't
23 know.

24 THE COURT: Tell me what you want to
25 do.

5847

1 Colloquy

2 MR. FINZ: Perhaps, your Honor, if
3 we could just.

4 COURT OFFICER: He's here.

5 MR. HUBICKI: I have a motion in
6 limine we'd like to make regarding the
7 testimony of Dr. VonBurg who has been

8 designated.
9 THE COURT: Who is that?
10 MR. KACZINSKI: The industrial
11 toxicologist, your Honor.
12 MR. HUBICKI: Which once again,
13 given no notice whatsoever about this.
14 THE COURT: What is he going to
15 testify to?
16 MR. KACZINSKI: Your Honor, just by
17 my glancing over the motion, I got a lot
18 of talk about medical stuff here. He's
19 going to talk about scientific
20 discussions. He's a board certified
21 toxicologist, and a board certified
22 industrial hygienist.
23 What he did is he went back and
24 tried to -- he studied the industrial
25 processes, and the process that

5848

1 Colloquy
2 Mr. Anderson worked in throughout the
3 course of his life. He became familiar
4 with the winery business.
5 He -- from his prior experience, he
6 had experience in the plastic industry.
7 We know about the bathtub refinishing
8 business because we heard from
9 Mr. Baldwin and from Mr. Anderson.
10 He learned about what Pfizer's
11 product line was at the time it was
12 being manufactured and the process when
13 Mr. Anderson would be at Pfizer, what
14 type of pharmaceuticals they were
15 working with, what Mr. Anderson's
16 experienced, and what Mr. Anderson's
17 position would have been exposed to at
18 each of these places.
19 What he's going to testify is there
20 are industrial encyclopedias he referred
21 to. He interviewed people. He knows
22 what prior experience --
23 THE COURT: But we haven't had any
24 testimony to back that up. So in other
25 words, interviewing people that are not

5849

1 Colloquy
2 present in Court and will not be, I'm
3 assuming presents a problem. I will
4 allow him to testify, but he cannot base
5 the testimony on anything that will not
6 come into evidence directly.
7 MR. KACZINSKI: Well, your Honor --
8 MR. HUBICKI: The whole point is
9 that all of this testimony has not been
10 connected to Clyde with some kind of
11 evidentiary foundation? In other words,
12 what is the relevance of all of this.
13 THE COURT: I'm going to find out.
14 MR. HUBICKI: No, no. Wait, Judge.
15 Let me say unless there is some
16 testimony that shows that some of these
17 exposures or one of those exposures was
18 a cause of Clyde Anderson's lung cancer,

19 emphysema --
20 MR. KACZINSKI: I don't have the
21 burden to do that.
22 MR. HUBICKI: Yes, you do.
23 THE COURT: No, no. I'm more
24 concerned about the issue of what he's
25 going to be utilized for. I mean, so
5850

1 Colloquy
2 who cares about the winery industry
3 without testimony that Clyde was exposed
4 to that?
5 MR. KACZINSKI: Your Honor --
6 MR. HUBICKI: Hold it.
7 MR. KACZINSKI: Your Honor, he does
8 this all the time. One of things he
9 does as a certified industrial hygienist
10 is to recreate. It's no different than
11 an accident reconstructionist who
12 recreates the exposure at one particular
13 point in time.
14 THE COURT: Counsel, accident
15 reconstructionists do not go out, or at
16 least in my Court, they don't go outside
17 the evidence.
18 MR. KACZINSKI: This is a broad
19 toxicological literature that he refers
20 to.
21 THE COURT: I'm not arguing about
22 the literature. I'm arguing about the
23 facts underlying the literature. That
24 some thing, something different -- I
25 would like to get him here. I'll stop
5851

1 Colloquy
2 him and you should make appropriate
3 notes, and I'm directing you now if
4 there is not any item that he's going to
5 talk about that is not in the record,
6 and I haven't seen it in the record yet,
7 then you can't -- I won't allow the
8 question.
9 MR. KACZINSKI: Well, let me raise
10 this issue right now. I don't think we
11 have got any issue with bathtub
12 refinishing.
13 THE COURT: We know the chemicals.
14 MR. KACZINSKI: Well, let's scale
15 back to the prior job at Kalex. There
16 has been testimony from Mr. Anderson
17 about what he did at Kalex.
18 Dr. VonBurg from prior experience
19 and from use of these literatures which
20 is like a virtual volume of
21 encyclopedias on the industrial
22 processes of the plastic making process,
23 he can describe for you the plastic
24 making process and tell you with
25 precision based upon Mr. Anderson's
5852

1 Colloquy
2 testimony where he was in the plastic
3 making process.

4 So for example, plastic making
5 involves vinyl chloride and polyvinyl
6 chloride. No question about that. Well
7 established. From this toxicological
8 literature Dr. VonBurg is going to
9 render an opinion that Mr. Anderson was
10 exposed to polyvinyl chloride and vinyl
11 chloride which are known human
12 carcinogens. That is not speculation.
13 That's based upon the testimony of
14 Mr. Anderson and a toxicological report.

15 THE COURT: I'm not arguing. I've
16 heard enough on that now. Go further
17 with the winery. I'm interested in the
18 wine.

19 MR. KACZINSKI: You're going to be
20 surprised about some of the stuff in
21 wine. Let me go backward one by one.

22 Prior to that, Mr. Anderson was a
23 basically a truck driver who collected
24 trash. Sanitation workers and truck
25 drivers are a an increased risk of

5853

1 Colloquy
2 cancer clearly in the toxicological
3 literature if we go back one for that.

4 THE COURT: Sanitarian?

5 MR. KACZINSKI: Sanitation.

6 THE COURT: When was he doing that?

7 MR. HUBICKI: He was doing paper.

8 He was recycling corrugated boxes.

9 That's not the point of the motion.

10 MR. KACZINSKI: He was driving a
11 truck.

12 MR. HUBICKI: He was driving a truck
13 doing paper recycling corrugated boxes.

14 MR. FINZ: He wasn't recycling at
15 all. He was behind the wheel.

16 MR. KACZINSKI: That's right.

17 THE COURT: Okay, so he's going to
18 say what?

19 MR. KACZINSKI: He's going to say
20 based upon toxicological literature
21 including particular studies that study
22 truck drivers, that truck drivers
23 because of the exposure to exhaust
24 fumes, there was elevated risks of lung
25 cancer involved above the ordinary

5854

1 Colloquy
2 human. That's literature. There is no
3 doubt about that, and if there is any --
4 there is other literature.

5 THE COURT: But the product that he
6 was using -- this is just the truck.

7 MR. KACZYNSKI: It's an occupational
8 exposure. If we go back one further, we
9 have him at Pfizer.

10 MR. LONDON: Your Honor, may we ask
11 that some of the witnesses be excused
12 please?

13 THE COURT: Go ahead.

14 MR. KACZINSKI: If we go back to

15 Pfizer, Mr. Anderson testified under his
16 deposition about what he did at Pfizer.
17 THE COURT: I didn't hear it in the
18 trial. I'm not concerned about the
19 deposition.
20 MR. KACZINSKI: In the deposition --
21 THE COURT: I don't care what's in
22 the deposition. It's got to be on the
23 evidence in the trial.
24 MR. KACZINSKI: We could read that
25 portion of the deposition, your Honor.

5855

1 Colloquy
2 THE COURT: As long as I have
3 assurance that it is coming into
4 evidence.
5 MR. KACZINSKI: Okay, now --
6 THE COURT: That he did what?
7 MR. KACZINSKI: He did -- he had two
8 jobs at Pfizer. One very briefly was a
9 packer. One for most of the time there,
10 was a mixer and a pourer; and -- you
11 know -- I think he did testify about
12 that on direct. He was a mixer and
13 pourer of pharmaceuticals.
14 Dr. VonBurg has consulted the
15 Physician's Desk Reference for those
16 years; has consulted the toxicological
17 literature, consulted Pfizers product
18 line to determine what those -- what
19 type of --
20 THE COURT: That's where I have a
21 problem. You just said it; their
22 product line. That doesn't mean that he
23 was exposed. That's an improper
24 reference.
25 MR. KACZINSKI: But he said he was

5856

1 Colloquy
2 mixing together pharmaceuticals, and --
3 THE COURT: He didn't say what, and
4 you can't make the assumption that of
5 the hundred pharmaceuticals that were in
6 that plant, without knowing what lines
7 were run, what lines he was working on.
8 That's just too speculative. That's
9 what I have a problem with.
10 MR. KACZINSKI: Let me put the
11 specific pharmaceuticals aside.
12 In the toxicological literature
13 there was a reporter that talc was used
14 as a filler in all kinds of pills. In
15 other words, the medication in the pill
16 is actually a very small part of the
17 pill. Some sort of inert filler is used
18 for the rest of the pill. Regardless of
19 what the pill is, it certainly would
20 have included things.
21 He testified he had been making this
22 talc which is a human carcinogen, and
23 talc has been frequently reported in
24 toxicological literature to be
25 contaminated with asbestos, and that's

Colloquy

regardless of what particular pill he was working with. It's been reported in toxicological literature. It's been a filler in most of the tests.

THE COURT: He's not going to say it caused cancer.

MR. KACZINSKI: He's going to say two things.

One, regardless of what specific exposure Mr. Anderson had, the epidemiological studies in literature is that pharmaceutical workers are at increased risk of cancer.

THE COURT: Over what extended period?

MR. KACZYNSKI: That, I don't know. I have to look.

THE COURT: That's why we are going to have a problem.

MR. KACZINSKI: As that goes to weight, your Honor.

THE COURT: Not -- no, it doesn't.

MR. KACZINSKI: Do we know how long the people smoked at Doll and Hill and

5858

Colloquy

Wynder and Graham? No. We just know they were smokers.

THE COURT: We do know there is a 20 to 40 or 20 to 30 year latency period of exposure, and we know that based on the literature. We know that pretty precisely.

MR. KACZINSKI: I'll tell you then. Right there if we have a 20-year latency, for a tumor detected in 1996, he was working at Pfizer right up until 1975.

THE COURT: Counsel, go ahead. I have a problem when this is based on pure speculation and not on scientific conclusion based on the evidence, and --

MR. KACZINSKI: It's based more than, your Honor, on --

THE COURT: And also I must tell you that your own people have said that the only two that are clear -- I think it was yours -- was asbestos and cigarettes.

MR. KACZINSKI: I think this was --

5859

Colloquy

MR. SHEFFLER: This was Eugene Mark. This was the plaintiff's.

THE COURT: I think this was confirmed by another of the defendant's witnesses. Maybe I'm wrong, but --

Now, let me hear that about the winery. I need to be sure about this. I am not sure about the winery except for the talc.

11 MR. KACZINSKI: Dr. VonBurg is from
12 California. He did work for the
13 California State Board of Health, and
14 then as a consultant in private practice
15 with winers and wineries.

16 Mr. Anderson was a custodian in a
17 winery. Dr. VonBurg interviewed winery
18 managers to find out what the custodians
19 did at the winery. He has toured
20 wineries in California, and has looked
21 at literature on wineries and found out
22 that wineries in that era -- not
23 today -- but in that era used an
24 asbestos filter to filter the wine to
25 get all the gunk out of it so it would

5860

1 Colloquy

2 be clear.

3 THE COURT: And are you going to
4 have testimony that that filter was used
5 by Manischewitz?

6 MR. KACZINSKI: We are going to have
7 testimony that it was used in the winery
8 industry in that period.

9 THE COURT: Insufficient.
10 Insufficient. I'll not allow it without
11 identifying that it was used in this
12 business.

13 MR. KACZINSKI: Well, let me ask the
14 witness and see if he's done that
15 specifically. I'm not aware that he
16 has.

17 THE COURT: All right, let's get the
18 jury in.

19 MR. FINZ: Judge, may I respond to
20 some of these?

21 THE COURT: Counsel, I understand.
22 I will take this one at a time. I want
23 specific information, not speculation.

24 MR. FINZ: That's exactly the
25 argument that I raise, your Honor.

5861

1 Colloquy

2 THE COURT: I understand. So that
3 if you don't hear specificity of his
4 exposure, then you will object and ask
5 for a bench conference.

6 MR. HUBICKI: The one thing, Judge,
7 aside from the speculative nature --

8 THE COURT: He's not doing a
9 conclusion.

10 MR. HUBICKI: -- is that there is no
11 evidence that ties any of those
12 exposures to Clyde and Anderson's lung
13 cancer. In other words, they have never
14 provided any expert testimony.

15 THE COURT: I understand that.

16 MR. HUBICKI: Mucoepidermoid they
17 are claiming is caused by wine making.
18 They haven't done that.

19 THE COURT: I'll allow -- that will
20 be your cross-examination.

21 MR. FINZ: Your Honor, that goes

22 beyond that. There's no foundation for
23 that testimony in the first place.
24 THE COURT: I understand.
25 MR. HUBICKI: Just by speculation in
5862

1 Colloquy
2 front of the jury.
3 THE COURT: I understand. We're
4 going to make sure it comes as close to
5 scientific proof as possible, but I'm
6 not going on speculation and I don't
7 want to hear a statement later that I'm
8 anti that witness like I heard once
9 before.
10 COURT OFFICER: Jury entering.
11 COURT CLERK: Be seated.
12 THE COURT: Good morning, folks.
13 Well, we're moving, folks. They
14 tell me that I'm looking at my last week
15 of testimony, maybe with another day;
16 but that's what I'm looking at just to
17 let you know where we are.
18 MR. RANGLES: Thank you, your Honor.
19 We call for our next witness,
20 Dr. Ken Ludmerer.
21 D R. K E N N E T H M A R C L U D M E R E R,
22 a witness called on behalf of Defendant
23 Lorillard, after having first been duly
24 sworn by the Court Clerk, was examined
25 and testified as follows:
5863

1 Colloquy
2 COURT CLERK: Please be seated.
3 Give your name and address, business
4 address; first name and last name, and
5 spell both please.
6 THE WITNESS: Kenneth, middle name
7 Marc -- M-A-R-C -- with a C; and the
8 last name is Ludmerer --
9 L-U-D-M-E-R-E-R.
10 COURT CLERK: Your business address?
11 THE WITNESS: Business address would
12 be Washington University, Department of
13 Medicine, Campus Box 8066; and then
14 there's a street address, sir. 660
15 South Euclid -- E-U-C-L-I-D -- Avenue.
16 St. Louis, Missouri. Zip code is 63110.
17 COURT CLERK: Thank you, doctor.
18 MR. RANGLES: Good morning, your
19 Honor.
20 Good morning, counsel.
21 Good morning.

22 DIRECT EXAMINATION
23 BY MR. RANGLES:
24 Q I know you just did it, Dr. Ludmerer,
25 but so we can all hear you, would you state your
5864

1 Dr. Ludmerer-Direct-Mr. Randles
2 name again?
3 A My name is Kenneth Marc Ludmerer.
4 Q And you're going to have to speak up
5 just a little bit. It's a big room.
6 A I'm a little soft spoken, so thank you

7 for that.
8 Q I will let you know if I have trouble
9 hearing you; and ladies and gentlemen of the jury,
10 will you give me a sign if you have trouble.
11 Now are you a physician, a medical?
12 A Yes, I am.
13 Q And are you a professor of any subject?
14 A I'm a professor of internal medicine at
15 the Washington University School of Medicine; and
16 I'm also a historian of medicine, a professor of
17 history in the faculty of arts and sciences of
18 Washington University as well.
19 Q We're going to get into some more detail
20 in a moment, but are you a practicing medical
21 historian?
22 A Yes, I am.
23 Q Dr. Ludmerer, would you describe for us
24 starting with college, your education, college and
25 any higher degrees you have?

5865

1 Dr. Ludmerer-Direct-Mr. Randles
2 A I was an undergrad at Harvard College
3 and majored in history and science.
4 I was in medical school at the Johns
5 Hopkins School of Medicine in Baltimore, and I was
6 -- in Baltimore I also did work, grad work in the
7 history of medicine and received a Masters Degree
8 in the history of medicine from Johns Hopkins at
9 that time.
10 Following graduation from medical
11 school, I went to St. Louis, Missouri to be in the
12 house staff training program at Washington
13 University School of Medicine; and our teaching
14 hospital is called Barnes Hospital.
15 Q Doctor, I think it would be helpful if
16 you'd keep your voice up a little more. I'm
17 having a little trouble.
18 A I was an intern and a resident at the
19 Barnes Hospital. I did three years of a residency
20 in internal medicine. I took and passed my board
21 in internal medicine.
22 I then did a two-year fellowship in
23 history. I went to Harvard University. I did
24 additional graduate work in history.
25 I came back to St. Louis, and I had the

5866

1 Dr. Ludmerer-Direct-Mr. Randles
2 position that was called chief resident in
3 internal medicine for Barnes Hospital and for
4 Washington University. It was a culmination of a
5 teaching program.
6 I ran the program in internal medicine
7 for that year, and then I joined the faculty as
8 assistant professor of medicine in the school of
9 medicine, an assistant professor of history in the
10 art and science division.
11 Q And how long have you been a professor
12 of medicine and professor of history?
13 A I have been on the faculty for 20 years
14 now. That was approaching 21. I'm a full
15 professor now. I started as assistant professor.
16 I have been on the faculty continuously since
17 July of 1979.

18 Q And this jury has already heard about
19 board certification, so I won't ask you to repeat
20 it; but are you board certified in any field of
21 medicine?

22 A Yes. I'm board certified in internal
23 medicine.

24 Q And, doctor, have you published any
25 articles or books in the field of medical history?

5867

1 Dr. Ludmerer-Direct-Mr. Randles

2 A Yes, I have.

3 Q And this jury has heard about peer
4 review, so we won't go back over it; but have you
5 published in peer review journals?

6 A Yes, I have.

7 Q Have you published in the books in the
8 field of medical history?

9 A Yes, I have.

10 Q How many?

11 A Three.

12 Q And have any of your books been
13 nominated for my prizes or awards?

14 A Well, my first book which was called
15 Genetics in the American Society was listed by
16 Saturday Review on its list of the year's ten
17 outstanding books on scientific subjects.

18 Then I had a book called Learning To
19 Heal. That was on the creation of medical schools
20 and teaching hospitals in the United States. That
21 was published in November of 1985 by Basic Books.
22 That was nominated for a Pulitzer Prize and a
23 Bancroft Prize in history which was given to the
24 best book in American history.

25 And I had a book published last November
5868

1 Dr. Ludmerer-Direct-Mr. Randles

2 by Oxford University Press called Time to Heal
3 which looks at the American medical education from
4 early twentieth century to the present year of
5 managed care. That book also has been nominated
6 for a Pulitzer Prize.

7 Q Doctor, I see from your resume that you
8 are a member of something called the Association
9 of American Physicians?

10 A Yes.

11 Q Can you tell us briefly what that means?

12 A The Association of American Physicians
13 is the major honorary society of academic
14 medicine. It for the most part consists of
15 members from the clinical departments because it
16 deals with patient oriented and clinical oriented
17 research.

18 When I say the clinical department, I
19 mean for the most part surgery, internal medicine,
20 pediatrics as opposed to biochemistry anatomy.

21 One does not join this organization.
22 You are elected to it. It is considered the
23 highest honor that a physician at a medical school
24 on a clinical department can receive, and about
25 one percent of the faculty of U.S. medical schools

5869

1 Dr. Ludmerer-Direct-Mr. Randles

2 have been elected to this organization.

3 There are -- and I'm guessing -- seven
4 or 800 members of that association of the American
5 Physicians, and there are -- I'm guessing -- 70 or
6 80,000 full-time clinical faculties. So roughly
7 one percent of the faculty of U.S. medical schools
8 have been elected to membership in this
9 organization, and I was elected about a year ago.

10 I was elected for my work in history
11 which is a bit unusual. Most people are elected
12 for -- to work in conventional patient oriented
13 research of some sort, but the work that I did in
14 the history of medicine and in medical education
15 earned me leaks to this organization.

16 Q One final question about your clinical
17 practice. Do you actually see and treat patients?

18 A Yes, I do. As a member of the faculty
19 practice plan of Washington University Medical
20 School, I'm an attending on the clinical service
21 about four months to a year and see patients every
22 day during those four months.

23 Q Okay. Now, let us talk about history a
24 little bit. Are there any principles or concepts
25 that persons trained in history are taught to used

5870

1 Dr. Ludmerer-Direct-Mr. Randles
2 when they engage in this sort of analysis?

3 A Yes, there are.

4 History is a very exacting, demanding
5 discipline. You can't just do history anymore
6 than you can just do physics or you can just do
7 philosophy. It requires graduate training
8 education to prepare oneself to do the work
9 properly, and of course there are rules that
10 historians follow that they learn in their
11 training of doing the work.

12 Q Have you brought an overhead for us so
13 that it will be helpful to the jury to talk about
14 some of these rules and concepts?

15 A Yes, I have.

16 MR. RANGLES: Could we bring that up
17 just for Court and counsel please?

18 With your Honor's permission, I'd
19 like to display that.

20 THE COURT: Go ahead.

21 MR. RANGLES: You can put it up.

22 Q Doctor, is that little screen in front
23 of you working?

24 A Yes, it is.

25 THE COURT: This is the one machine

5871

1 Dr. Ludmerer-Direct-Mr. Randles
2 that has its ups and downs. It's like
3 good days and bad days.

4 THE WITNESS: Thank you for the
5 warning, your Honor. If I don't see it
6 I'll tell you.

7 Q Doctor, could you tell us what
8 relationship these have -- and let's take them one
9 at a time -- have to historical analyses?

10 A Well, the first principle under -- can
11 you hear me? Am I speaking loudly enough.

12 Q I think we are all right.

13 A And please let me know if my voice is

14 too low.
15 The first principle is context. History
16 is anchored in time by definition, and one of the
17 tasks of the historian is to learn --
18 MR. FINZ: Excuse me, doctor.
19 History is anchored in what?
20 THE WITNESS: In time.
21 MR. FINZ: I'm sorry for the
22 interruption.
23 A And one of the tasks we have is to
24 immerse ourselves in time.
25 So if for example you're writing a

5872

1 Dr. Ludmerer-Direct-Mr. Randles
2 biography of, President Eisenhower, you really
3 want to know everything about the times, what was
4 life not as we see it today, but as
5 President Eisenhower experienced it growing up;
6 his education during the war, during the '50s;
7 what was the culture like.
8 Just like anthropologists have to put
9 themselves in the mind set of a different culture
10 or society, historians have to get ourselves out
11 of the year 2000 and put yourself back in time and
12 experience things as those who were there
13 experienced it.
14 Q So is that what we mean by context?
15 A Yes, understanding things from the
16 prospective of those who experienced it; not as we
17 look back on it today.
18 Q Well, how would hindsight relate to
19 that?
20 A Well, hindsight is a related concept.
21 We can't have the conceit that people in the past
22 know everything we do. People in the past made
23 decisions on information that they had, not on
24 information that we have today.
25 It would be easy for example in

5873

1 Dr. Ludmerer-Direct-Mr. Randles
2 hindsight to say, to predict what college team
3 should have won. The NCAA basketball champs would
4 say he should have bet on Duke. He should have
5 bet on North Carolina when you know the outcome.
6 But when you're trying to make a
7 prospective guess and it's ahead of you, you
8 really can't even though with hindsight you can
9 say, gee. It was obvious that North Carolina
10 would win or UCLA would win; and the stock market.
11 The same way it's easy today to say, gee.
12 Investors in 1929 should have known there would be
13 a great crash. What was wrong with them? Why
14 didn't they get out of the stock market before the
15 crash that we had in 1987.
16 But -- you know -- people of the time
17 don't see that. They're immersed in the time.
18 That's an example of hindsight -- you know.
19 You can say Napoleon would have won and
20 not been conquered if he had the B52 bomber, when
21 he didn't have B52 bomber. Napoleon didn't. We
22 can't attribute to the past knowledge information
23 tool techniques that we have today.
24 Q How does comprehensiveness?

25 A Comprehensiveness is a way historians go
5874

1 Dr. Ludmerer-Direct-Mr. Randles
2 about doing their work. If they are going to do
3 corrective, to be thorough, you have to cover a
4 subject completely to make sure that you are not
5 missing things.

6 You can look at one article or one
7 newspaper clipping and get a very misleading image
8 of what happened.

9 If one were to write the history of
10 World War II, with the newspaper headline of
11 December 8, 1941, you would have thought that
12 Japan won World War II. You have to be
13 comprehensive and make certain that you are
14 looking at all the evidence to be able to give a
15 fair, balanced, and accurate appraisal.

16 THE COURT: You see. You bring up a
17 very interesting example. The New York
18 Times after a naval battle in World
19 War II, the next day called it if I
20 recall, a tactical victory and strategic
21 loss, and the historians looking back
22 reversed it and called that battle the
23 strategic one although it was the
24 tactical loss. So they just reversed
25 it, but that doesn't mean the newspapers
5875

1 Dr. Ludmerer-Direct-Mr. Randles
2 of today necessarily have this
3 hindsight.

4 THE WITNESS: Right.

5 Q How does -- I think you probably already
6 presented that last answer.

7 How does accuracy relate to this?

8 A Accuracy means that you have to
9 represent things that you find honestly and
10 completely. So for example, say I found an
11 article. Just like you don't commit fraud in
12 science and invent data, you have to have the same
13 integrity and honesty during history and represent
14 that article honestly and accurately to those who
15 read it? It's easy to take a few words from an
16 article and twist it out of the context.

17 The historian has an obligation to
18 portray that article in a very accurate fashion so
19 that it is interpreted by reader the way it was
20 really meant by the author.

21 Q And what does the term evolution of
22 knowledge mean?

23 A One of the things that historians of
24 medicine learn in the process of becoming a
25 historian of medicine, and actually historians of
5876

1 Dr. Ludmerer-Direct-Mr. Randles
2 science learn the same thing, is back when the
3 historians of science learned just how science
4 works, what you find is that science is very
5 messy. It's not just one straight line of
6 progress with one discovery leading to another,
7 but in fact, for every step forward there is lot
8 of steps sideways and steps backward. Sometimes
9 the consensus is wrong. The scientific community

10 can accept an idea that is later shown to be
11 incorrect.
12 Sometimes great ideas and correct ideas
13 are overlooked for a period of time. Ideas are
14 not necessarily accepted immediately, but the
15 scientific community has to be persuaded.
16 For example, after anesthesia was
17 developed, was discovered, ether, a general
18 anesthesia, it took 30 years for physicians and
19 surgeons to be persuaded that it was safe to use
20 anesthesia.
21 Anesthesia was not in common practice
22 until three decades later even though this was
23 available for use during that time. Sometimes
24 there is resistance to a scientific idea; and
25 sometimes the wrong is idea is accepted and ideas

5877

1 Dr. Ludmerer-Direct-Mr. Randles
2 evolve.
3 If you have a new way of thinking, it's
4 not just that a paper is published and everyone
5 reads it and accepts it immediately, but ideas are
6 discussed, and you're always going to have the
7 first people to accept the new idea, and then
8 there are going to be people in the broad middle,
9 and ultimately the rest will be convinced.
10 So it's the evolution. Some of them
11 accept things early. Some people a little bit
12 late. All of these aspects about how science
13 works and evolves is part of what historians of
14 medicine learn about what to do and study.
15 Q Do historians including historians of
16 medicine receive any particular training to apply
17 those ideas to when you look back in time?
18 A Yes, they do.
19 Q What kind of training do you get to do
20 that?
21 A Typically you do what I did. You go to
22 graduate school and get graduate degrees in the
23 history of medicine. This begins with course
24 work; courses in the history of medicine, history
25 of science, American history developing the

5878

1 Dr. Ludmerer-Direct-Mr. Randles
2 cultural context; also a lot of seminars that you
3 attend where you hash out ideas. You present your
4 own research. You present your findings to others
5 who in a constructively critical way analyze them.
6 You write papers. You do theses. Ultimately you
7 do a dissertation.
8 MR. RANGLES: We can take this down
9 now. Thank you.
10 Q I want to ask you about a resource.
11 What is index medicine?
12 A Index Medicus. Medicus is an index to
13 the published medical literature, and the same way
14 that Reader's Guide is an index to the published
15 popular magazines, Index Medicus was created in
16 the late nineteenth century. It has a continuous
17 existence since then, and every month, month by
18 month, year by year the people at Index Medicus
19 indexed medical literature so you can look up any
20 time any subject you wish, or any author you wish

21 and find out what journals that author published
22 in, or what journals would have an article on that
23 subject.

24 Q Did you use this index in your study of
25 tobacco and lung cancer?

5879

1 Dr. Ludmerer-Direct-Mr. Randles

2 A Yes, I did.

3 Q What did you do?

4 A I studied the what was known in the
5 medical community about the causes of lung cancer
6 and the relationship of cigarette smoking from the
7 period 1930 when you start to see arise in lung
8 cancer to January 1964 which as I believe has been
9 told to the jury was when the first surgeon
10 general's report was published.

11 Q Now, about how many articles are there
12 in the Index Medicus which refers you to -- about
13 this subject from 1930 to about 1964?

14 A Well, there are approximately 12 to
15 1,400 articles as I recall. I took the Index
16 Medicus year by year. I had the 1930 volume and
17 1931 volume and the 1932 volume, and I looked up
18 four topics each year.

19 I looked up lung cancer. I looked up
20 bronchogenic cancer which is a typical tumor lung
21 cancer. It was curious to me that both were
22 listed. So if I wanted all the articles on lung
23 cancer I had to look up both categories.

24 I looked up lung cancer, bronchogenic
25 cancer, tobacco and cigarette smoking, and I wrote

5880

1 Dr. Ludmerer-Direct-Mr. Randles

2 down all the articles, and then I went to our
3 library. We have a good medical library, and I
4 read all the articles.

5 Q Wait a minute. When you -- did you say
6 you read all the articles?

7 A That's correct.

8 Q All 12 or 1,400?

9 A Correct.

10 Q Did you just read summaries or the
11 title, or did you read the article?

12 A No. I read the whole article.

13 Q Why did you read the article?

14 A That's the only way to know what's in
15 it, to actually see what was done and what the
16 opinions of the authors were; what type of
17 evidence they had, that sort of thing.

18 Q About how long did -- how long did it
19 take you to read all those articles?

20 A This entire project that I based my
21 opinions on today -- which by the way was done in
22 1988 and 89. I'm basing my opinions on work that
23 I did a decade ago, and also as part of that
24 project, we'll remember from the slide there was
25 an area called context.

5881

1 Dr. Ludmerer-Direct-Mr. Randles

2 So in addition to reading articles, I
3 read a lot about the history of medicine and the
4 history of cancer, and I got all the books on the
5 history of public health of cancer, American

6 Cancer Society's various organizations, and read
7 the secondary literature to immerse myself in the
8 context of time.
9 The total project, the secondary
10 literature, and the journals was about a thousand
11 hours over a two-year period, 1988, 1989.
12 Q And you were paid for your time, weren't
13 you?
14 A That's correct.
15 Q And about how much did you charge per
16 hour?
17 A I charged \$200 per hour.
18 Q Now, I'm going give you some more
19 detail.
20 Based upon your educational training in
21 medicine, doctor, as a medical historian and the
22 research you've described, do you to a reasonable
23 degree of scientific certainty have an opinion
24 regarding the generally accepted state of science
25 from 1930 to 1964 regarding smoking and lung

5882

1 Dr. Ludmerer-Direct-Mr. Randles
2 cancer?
3 A Yes, I do.
4 Q What is that opinion?
5 MR. FINZ: State of science?
6 Objection.
7 A Opinion number one --
8 THE COURT: Wait a minute.
9 MR. FINZ: Objection just to the
10 form, Judge; state of science.
11 THE COURT: State of science?
12 MR. FINZ: That was the question.
13 THE COURT: I will allow it. State
14 of science. Yes. That's okay.
15 State of science over medicine?
16 MR. FINZ: State of science was the
17 question, your Honor.
18 THE COURT: I understand. Shouldn't
19 it be state of medical knowledge as
20 opposed to state of science?
21 MR. RANGLES: With the same
22 preference, and your amendment to state
23 of medicine.
24 A State of medical knowledge?
25 MR. FINZ: Excuse me, your Honor.

5883

1 Dr. Ludmerer-Direct-Mr. Randles
2 May I ask for a clarification?
3 Q Based upon your education, your training
4 as a medical doctor, and as a medical historian
5 and the research you described here today; do you
6 to a reasonable degree of scientific certainty
7 have an opinion regarding the generally accepted
8 state of medical knowledge from 1930 to 1964
9 regarding smoking and lung cancer?
10 A Yes, I do.
11 Q What is your opinion?
12 A Opinion number one. At some point, we
13 had to begin to worry that cigarette smoking
14 caused lung cancer.
15 We began to worry in 1950 with the
16 publication of several important --

17 MR. FINZ: I'm going to object to
18 this, your Honor.
19 THE COURT: "Began to worry"? Is
20 that the words you used?
21 THE WITNESS: The first credible
22 evidence was obtained.
23 THE COURT: That's not the same as
24 we began to worry.
25 THE WITNESS: Perhaps I misspoke and

5884

1 Dr. Ludmerer-Direct-Mr. Randles
2 spoke too colloquially. I'm not an
3 experienced witness.
4 THE COURT: Well, we'll get you
5 there.
6 THE WITNESS: Great. Thank you.
7 A The first credible evidence linking
8 cigarette smoking and lung cancer was published in
9 the 1950s.
10 MR. FINZ: Excuse me, your Honor.
11 Excuse me. I don't want to be -- the
12 question was, what is your opinion. We
13 haven't heard that.
14 Do you have an opinion?
15 THE COURT: His opinion was that the
16 first credible evidence showing that --
17 wait a minute.
18 That was -- generally accepted was
19 in 1950?
20 THE WITNESS: Right.
21 MR. FINZ: "Do you have an opinion?"
22 The answer is "Yes".
23 "What is your opinion?" That's my
24 objection. It's not responsive to the
25 question.

5885

1 Dr. Ludmerer-Direct-Mr. Randles
2 Q Would you please in some reform state
3 your opinion. We're going to get into it in
4 detail. State your opinion in summary form.
5 A The first credible evidence linking
6 cigarette smoking with lung cancer was published
7 in 1950. That began a controversy in the
8 scientific community that lasted through the first
9 surgeon general's report of January 1964, and
10 after the report was published, a consensus
11 developed within the scientific community and gave
12 us our present understanding today of the
13 relationship between cigarette smoking an lung
14 cancer.
15 Q Doctor, were there various kinds of
16 research going on in the period from 1950 to 1964
17 on this topic?
18 A Yes, there were.
19 Q Have you brought an overhead with you
20 that it would be helpful in explaining to the jury
21 some of the types of research?
22 A Yes, I did.
23 THE COURT: I am trying to get a
24 definition from the doctor of the word
25 "controversy".

5886

1 Dr. Ludmerer-Direct-Mr. Randles

2 Q Okay, we were going to flush it out more
3 later, but we'll be happy to do it now.
4 THE COURT: As long as you intend to
5 get it out.
6 I don't understand what the word
7 controversy means in the word context
8 that you are using it.
9 Q Let's do it. We will talk about it
10 later in more detail.
11 Define what you mean by controversy.
12 THE WITNESS: What I mean, your
13 Honor, is that it was not established,
14 and there was marked disagreement among
15 scientists in the scientific community
16 in the medical community about the
17 relationship.
18 THE COURT: That's why I asked you
19 the question.
20 What you're saying is that after
21 this first report, that there was not
22 general acceptance?
23 THE WITNESS: Correct. It was not
24 generally accepted at the beginning.
25 THE COURT: And that general

5887

1 Dr. Ludmerer-Direct-Mr. Randles
2 acceptance however you define that,
3 occurred with the publication of the
4 surgeon general's report?
5 THE WITNESS: After the digestion of
6 the report; yes.
7 THE COURT: And how do you define
8 general acceptance?
9 Were there conflicting studies?
10 THE WITNESS: It's not that the
11 studies were conflicting. It's that
12 there were conflicting opinions over the
13 meaning of indirect evidence, namely
14 statistical evidence.
15 THE COURT: The epidemiological --
16 THE WITNESS: To some people it was
17 not so much the evidence as much as
18 disagreement over what conclusions could
19 be legitimately drawn from the evidence,
20 and many people particularly in the '50s
21 believed that the indirect evidence was
22 not sufficient to prove the case.
23 (S. Karlin relieved D. Dorsey and
24 recorded the proceedings.)
25

5888

1 Dr. Ludmerer-direct/Randles
2 DIRECT EXAMINATION
3 BY: MR. RANGLES:
4 Q Doctor, can you tell us what you are
5 looking at?
6 A These are the types of studies that were
7 conducted in the general area of lung cancer and
8 smoking during the period 1950 to 1964.
9 Q Doctor, I want you to assume that this jury
10 has heard a lot about these kinds of studies, and I
11 am not going to ask you to try to describe them in
12 detail, but would you briefly note for us how these

13 were going on, how they contributed to the
14 discussion?

15 A Would you like me to go in order of the
16 slide?

17 Q Any way you want.

18 A Well, the first studies that appeared were
19 the retrospect epidemiology studies. These began to
20 be published in 1950, 1954. They continued to be
21 published thereafter. By 1964 there were, I think,
22 19.

23 So this was just the beginning. These
24 are studies in which you have patients with lung
25 cancer, and you try to compare them with patients

SK

5889

1 Dr. Ludmerer-direct/Randles
2 who didn't have lung cancer and look backwards.

3 The term retro means backwards, and
4 try to see if you can learn something from their
5 charts and their medical histories and their
6 examinations about what might distinguish them.

7 Q When did the first prospective studies
8 occur?

9 A The first prospective studies, and these
10 are looking forward, more powerful, because you
11 start with smokers and non-smokers who are not yet
12 sick, and you follow them forward in time and they
13 are a more powerful study because you can better
14 control for variables, not perfectly control, but
15 you can better control for variables.

16 Also you can get more patients into
17 studies. The retrospective studies, the largest ones
18 had several hundred patients. The prospective
19 studies, the largest one had hundreds of thousands
20 of patients. So statistically they're more powerful.

21 The first studies that were published
22 were published in 1954. I would like to emphasize
23 the patient that --

24 THE COURT: The first which study?

25 THE WITNESS: Prospective studies.

SK

5890

1 Dr. Ludmerer-direct/Randles

2 THE COURT: 1954?

3 THE WITNESS: 1954.

4 THE COURT: Go ahead.

5 THE WITNESS: And these were carried
6 forward because the investigators who
7 published their results in 1954 continued to
8 follow the patients, who followed the
9 accounts in 1958; and more patients and more
10 time. And in fact the Surgeon General's
11 report cited prospective studies, and four
12 of those were published in the 1960's.

13 So I want to emphasize 1954 began the
14 prospective studies, but those were carried
15 forward in time and additional studies were
16 performed as well.

17 Q Doctor, I want you to assume that the jury
18 has heard from a number of witnesses about skin
19 painting, inhalation, autopsy studies and smoking
20 constituents. What I would like to ask you is this:

21 Did this kind of research continue

22 after 1954 until 1964 or even later?
23 A Yes, it did. The skin painting experiments
24 continued. One of the things that historians of
25 medicine know is that replication and confirmation
SK

5891

1 Dr. Ludmerer-direct/Randles
2 is an important part of the process of establishing
3 new ideas. So if you get a startling result you pay
4 attention to it. But usually you have to prove it
5 and someone else has to be able to do it before you
6 really convince people.
7 So there were maybe 20 to 24 skin
8 painting experiments that were published between
9 1954 and 1964. Skin painting experiments were done
10 before 1954 but they were all negative until late in
11 the 1953. The first positive study by the industry
12 was 1953. And in 1953 about 20 new studies were
13 done. Four of them were negative. The other 16 or so
14 had positive results.
15 And there were inhalation experiments
16 where you took animals who were also exposed to the
17 cigarette smoke to see if a lung cancer could be
18 induced in conditions that were much more similar to
19 human smoking conditions than painting on the skin,
20 and those studies were negative.
21 The autopsy studies and smoking
22 constituent research, a number of studies published
23 in the late 1950's and 1960's as well.
24 Q Doctor, I want you to assume that Doctors
25 Feingold and Whelen talked about -

SK

5892

1 Dr. Ludmerer-direct/Randles
2 A Were these plaintiff's witnesses from
3 before?
4 Q In this case.
5 They have testified, and I want you to
6 assume they testified about a rise in lung cancer
7 deaths from 1900 to 1950, and they also showed a
8 graph and talked about the rise in cigarette smoking
9 during that same period of time.
10 Are you with me?
11 A Yes.
12 Q What I want to ask you is this: Are there
13 any other major factors that arose with those
14 differences between that time period?
15 A Yes, sir, there were.
16 Q What would those be?
17 A Well, two things immediately come to mind
18 that would probably be more for additional time to
19 reflect. But it was not just lung cancer that was
20 increasing. Cancer of all types was increasing.
21 This period in 19 --

22 THE COURT: Counsel, approach.
23 (Whereupon, there was an off-the-record
24 discussion at the bench.)
25 THE COURT: Strike out the cancers.

SK

5893

1 Dr. Ludmerer-direct/Randles
2 Now you can talk about whatever you
3 want to talk about.

4 We have limited the testimony at this
5 trial to one illness and I don't want to get
6 into a discussion about others.
7 THE WITNESS: Okay.
8 Q Doctor, can you tell me if there was a
9 change in life expectancy between 1900 and 1950 that
10 plays any role in the lung cancer issue?
11 A Yes, there was.
12 Q Could you explain that to us?
13 A Through 1900 the life expectancy in the
14 U.S. was only about 45 years. And the top ten
15 causes of death were all acute diseases.
16 From 1900 to 1950 the life expectancy
17 rose to roughly 65 years, and it was in that middle
18 third of the century that chronic diseases of
19 different types became the common cause of death in
20 the U.S.
21 Q Doctor, the jury has heard the term latency
22 period. Does that concept have anything to do with
23 what you have just explained?
24 A Yes, it does.
25 Q How does it relate to what you just

SK

5894

1 Dr. Ludmerer-direct/Randles
2 explained about life expectancy?
3 A The diseases that became most prevalent in
4 our society in the middle third of the century and
5 those that continue to afflict us most today are
6 diseases associated with aging, you know, arthritis
7 and heart disease and vascular --
8 Q Let's not talk specifically about those
9 disease.
10 A So that the types of disease that middle
11 age and elderly individuals get were a different
12 type of disease that people were dying of early in
13 the century when infections were common.
14 Q Another question about epidemiology.
15 Is there a difference in the use of
16 epidemiology to analyze something called acute
17 conditions as opposed to chronic diseases?
18 A Yes, there is, but I also thought of one
19 more difference that occurred in terms of 1900 to
20 1950.
21 Q Let's go back to that.
22 Are there any other differences --
23 MR. FINZ: Objection.
24 Foundation, your Honor.
25 THE COURT: We are reverting back.

SK

5895

1 Dr. Ludmerer-direct/Randles
2 Q Are there any other significant differences
3 in that time period besides life expectancy, smoking
4 and lung cancers?
5 A You were asking that question of the graph,
6 just the statistical rise over the first half
7 century?
8 Q Yes.
9 A Another important element in our society
10 with that same type of curve was the automobile air
11 pollution, exhaust fumes, those sort of things. If
12 you look at the number of automobiles, air

13 pollution, industrial exposers, those had the same
14 type of curve that you were describing before.

15 That was the other thought that came
16 to mind before when you asked me that earlier
17 question.

18 Q Doctor, in terms of the generally accepted
19 state of science in the fifties, was a difference
20 recognized between using epidemiology to analyze
21 acute conditions and using it to analyze chronic
22 diseases?

23 A Yes, there was.

24 Q What was this difference?

25 A The epidemiology of acute conditions was
SK

5896

1 Dr. Ludmerer-direct/Randles
2 direct evidence, experimental evidence if you will.
3 It was a human experimentation. So, for example, if
4 you had a venereal disease, you can trace contacts.
5 If you were investigating measles, you can trace
6 contacts. It was a human experiment. If some
7 person is sick and you are exposed to another, that
8 person gets it and you can culture the organism from
9 that person.

10 It is Robert Coch was the founder of
11 bacteriology in the world. And he advanced the
12 criteria of how an organism shows an infection. And
13 it is just this direct, fundamental principle of the
14 science of bacteriology.

15 Q Does the chronic disease differ from what
16 you --

17 A Chronic disease differs because you don't
18 have that direct, immediate effect; it comes later.

19 In 1820's London if you drunk from a
20 long pump and got stricken with cholera, you get it,
21 and if you drank from another pump and unexpectedly
22 you do not, that is very dramatic and apparent and
23 you live. Biological mysteries of chronic disease
24 is that the agents that we now know are associated
25 with chronic diseases have these latency periods.

SK

5897

1 Dr. Ludmerer-direct/Randles

2 So if you are talking about cigarette
3 smoking or high blood pressure, it is not that you
4 have a heart attack, it is that your risks of having
5 a heart attack in 20, 30, 40 years is --

6 MR. FINZ: I object to any heart
7 attack.

8 THE COURT: We haven't discussed that
9 either.

10 MR. RANGLES: I'll ask him another
11 question, Judge.

12 Q So what if any recognition was there in the
13 scientific community in the mid 1950's in using
14 epidemiology to analyze chronic diseases like lung
15 cancer?

16 A Well, it didn't fit the mold. What we
17 learned about lung cancer is that it didn't occur
18 right away, it occurred later; that most people who
19 smoke did not get sick; that if you did smoke it
20 increased your chance but it certainly didn't
21 guaranty that you would get lung cancer. And it did

22 not behave like conventional infections, it did not
23 behave like conventional poisons or toxins.
24 So it was very puzzling to the
25 scientific community. If it's cigarette smoking or
SK

5898

1 Dr. Ludmerer-direct/Randles
2 air pollution or exhaust fumes, they get lung cancer
3 immediately upon exposure to it like other acute
4 disease. So the fact that illness developed later,
5 that's multiple factors which were involved with its
6 development, that is, you are talking a relative
7 risk rather than all or none. That you might not
8 die from it made it a much more difficult problem to
9 study. And the techniques that we had available in
10 1950 could not resolve those issues.

11 Q What does the term experimental model mean?

12 A Experimental model refers to direct
13 evidence. We all watch TV --

14 THE COURT: Are you suggesting to us
15 that these epidemiological studies that we
16 heard about were with a lead type of study
17 for chronic disease?

18 These were leading the field?

19 THE WITNESS: It had never been done
20 before in the history of medicine.

21 THE COURT: So that's why Doll is so
22 significant because it leads the way to
23 chronic epidemiology?

24 THE WITNESS: Exactly.

25 Q Let's follow up on your Honor's question

SK

5899

1 Dr. Ludmerer-direct/Randles
2 there.

3 Just so we're crystal clear, had these
4 epidemiological techniques been employed before they
5 started being applied to cigarettes and lung cancer?

6 A No, sir. This was the first time in
7 history that these techniques were applied to
8 chronic disease. A few fields were being created at
9 this time to deal with this perplexing problem of
10 lung cancer; it had never been done before.

11 Q Well, were all these epidemiological tools
12 already in existence or were people creating them as
13 they went?

14 A They were creating them as they went, again
15 with the 1950 studies and series of steps through
16 1964.

17 Q I want you to assume we heard a lot of
18 testimony in this case about the state of science in
19 late 1953, early 1954.

20 Were all of these tools that
21 epidemiologists were using with respect to tobacco
22 and lung cancer, developing with respect to that
23 study, were they already all created by 1953 or
24 1954?

25 A No.

SK

5900

1 Dr. Ludmerer-direct/Randles

2 Q What were some of them that were still
3 waiting to be created?

4 A In 1953 the prospective studies have not
5 been done already.
6 THE COURT: Of any kind?
7 THE WITNESS: Yes.
8 THE COURT: So what is notable to the
9 historian of medicine is not just that lung
10 cancer was being investigated but that new
11 tools for the first time in the history of
12 medicine are being developed that ultimately
13 are applied widely to chronic diseases. New
14 tools and a new field is being created. This
15 is the first time in history that this is
16 being done.
17 So prospective studies of 1954, that's
18 why I wanted to ask you if you said 1953 or
19 1954. The prospective studies which were
20 first published in 1954 were the first
21 prospective studies of any type for a
22 chronic disease, and new information
23 continued to be accumulated afterward and
24 new tools continued to be developed after
25 1954 to analyze the data.

SK

5901

1 Dr. Ludmerer-direct/Randles
2 Q What does the term experimental model mean?
3 A Experimental model in science is direct
4 evidence. So either with a human being or an
5 animal, you do something to it and you see the
6 result right away.
7 So if you have a person who has an
8 accident, obviously that's trauma, a pretty direct
9 experiment. If you expose a person or an animal to
10 and infectious agent and that animal or person gets
11 that disease, you have direct evidence.
12 If you go to the laboratory and cut
13 out the pancreas gland and the animal develops
14 diabetes, you know there is something in the
15 pancreas grand. And if you don't have it you get
16 diabetes. All of these things happen immediately
17 and they are very large effects and you see the
18 results immediately, unlike the problem with lung
19 cancer where we ultimately figured out the problem
20 some 20, 30, 40 years later. And it is not that
21 everyone who is exposed gets it, just some people.
22 So we had to develop tools to figure
23 out the chronic diseases, the lung cancer. That is
24 indirect evidence. And that's where the
25 epidemiological statistics came in. They represented

SK

5902

1 Dr. Ludmerer-direct/Randles
2 incorrect evidence because you didn't see the
3 effects right away.
4 Q On that list we see which types of
5 experiments or studies that you just described as
6 experimental evidence?
7 A Experimental studies would be skin
8 painting, inhalation experiment, autopsy studies and
9 smoking condition constituents.
10 The only study you can do with the
11 human is if you took a hundred patients, none of
12 whom smoked, and forced 50 people to smoke and did

13 not allow the other 50 to smoke. That would be an
14 experiment. But the prospective studies were
15 indirect because they started with people who were
16 already chosen to smoke.

17 Q What was the generally recognized view of
18 the scientific community in the mid '50s about the
19 value of experimental scientific research?

20 A Well, this was the nature of the debate.
21 Everyone that I have read in the scientific
22 community was concerned about the statistical
23 association between cigarette smoking and lung
24 cancer. But there was a great deal of disagreement
25 over what conclusion could be drawn from that

SK

5903

1 Dr. Ludmerer-direct/Randles
2 because a statistical association is not proof of
3 cause and effect.

4 There were some people who had -- if
5 you are talking about the early or mid '50s the
6 dominant part of the scientific community has been
7 trained under this experimental model that has
8 dominated medicine for five hundred years. The
9 progress of medical science from the 15th century to
10 the present break out of the shackles of ancient
11 thought and moving into the modern age has all come
12 through experimental research.

13 People were reluctant to accept
14 statistical evidence because it was not statistical
15 evidence. It was not the gold standard of evidence.
16 They did not believe in that cause and effect and
17 they did not believe that cigarette smoking caused
18 cancer. And of course there were those that said
19 that it did.

20 Q I want to show you a document. This is in
21 evidence. The jurors heard a lot about it but I
22 just want to ask you about a few statements.

23 Can you blow up for me the left
24 column?

25 I want to ask you about certain

SK

5904

1 Dr. Ludmerer-direct/Randles
2 scientific statements made there and I want to ask
3 you all these questions. I am going to ask you the
4 generally accepted state of science which was
5 published and I'll represent to you this was
6 published in January of 1954. Alright?

7 A Yes.

8 Q "Recent reports on experiments with myself
9 have given wide publicity to a theory that cigarette
10 smoking in some way links with lung cancer in human
11 beings."

12 Was that an accurate statement at the
13 time?

14 A Yes, it was. The Wynder and Graham skin
15 painting study was published in late 1953 and
16 brought a lot of attention. As I mentioned before,
17 that was the first positive skin painting study.
18 Others had been done for 20 or so years before with
19 negative results. This is the first one to be
20 positive and it certainly was a statement that
21 invites a lot of publicity.

22 Q Let's go to the next paragraph.
23 "Although conducted by doctors of
24 professional standing," that was the doctors you
25 just referred to, correct? "These experiments are
SK

5905

1 Dr. Ludmerer-direct/Randles
2 not regarded as conclusive in the field of cancer
3 research."

4 Was that an accurate statement at the
5 time?

6 A Yes, it was. Doctors of professional
7 standing, certainly Doctors Wynder and Graham were
8 very eminent. Doctor Graham in particular who was
9 one of the great surgeons of the 20th century, and a
10 faculty member of the university where I am now.
11 But it was not concluded as proof.

12 In fact, the authors' statement,
13 Graham and Wynder say themselves in their paper,
14 this does not prove that cigarette smoking causes
15 lung cancer. In fact, the most important message of
16 their paper was to focus on cigarette smoking to see
17 if we can find the cancer causing it. But the
18 authors themselves said it was not proof.

19 Q It goes on to say, "However, we do not
20 believe that any serious medical research, even
21 though its results are inconclusive, should be
22 disregarded or lightly dismissed.

23 At the same time we deal with it in
24 the public interest to call attention to the fact
25 that eminent doctors and research scientists have

SK

5906

1 Dr. Ludmerer-direct/Randles
2 publicly questioned the claimed significance of
3 these experiments."

4 Was that a true statement at the time
5 that the eminent doctors and research scientists had
6 --

7 MR. FINZ: Objection.

8 THE COURT: Sustained. Let's talk
9 about general acceptance at that time.

10 MR. RANGLES: May I approach?

11 THE COURT: Yes.

12 (Whereupon, there was an off-the-record
13 discussion at the bench.)

14 Q Let's try again.

15 "The fact that eminent doctors and
16 research scientists have publicly questioned the
17 claimed significance of these experiments," was that
18 an accurate statement?

19 A Yes, it was. As the sentence before, the
20 results were positive, and as the sentence before
21 says, "we do not believe that any serious medical
22 research should be disregarded or lightly
23 dismissed."

24 The studies did receive attention. On
25 the other hand, it did not prove lung cancer because

SK

5907

1 Dr. Ludmerer-direct/Randles
2 the skin is not human lung. When you take large
3 concentrations of smoke and paint it, that's not the

4 same as inhaling it. And in fact other chemicals
5 can also be caused to show cancer on the skin if you
6 paint it on.
7 It did not prove cancer. So that was
8 an inaccurate statement as of 1954.
9 Q In terms of recognized in the scientific
10 community, would that be an accurate statement at
11 the time?
12 A Yes.
13 Q It goes on to say, "Distinguished
14 authorities point out:
15 Number one, that medical research of
16 recent years indicates many possible causes of lung
17 cancer."
18 Was that an accurate statement at the
19 time?
20 A In 1954 it was.
21 Q Have you brought the overhead that
22 illustrates some of the other areas of research in
23 the mid '50s that was going on regarding whether
24 they cause lung cancer?
25 A Yes.

SK

5908

1 Dr. Ludmerer-direct/Randles
2 MR. RANGLES: Can we show that to
3 Court and counsel, please, with your
4 permission?
5 THE COURT: Yes.
6 Q We will not go through these into detail but
7 my question is this: Were these other areas of
8 possible risk factors for lung cancer being
9 researched in the mid '50s?
10 A Yes, they were.
11 Q I am doing what historians do. I am going
12 back into the context of the times. This is 1954
13 we're talking about and these are in addition to
14 cigarette smoking, it is obvious that cigarette
15 smoking is being investigated. Also let's put
16 ourselves back in context of 1954.
17 There's no guaranty that any of these,
18 including cigarette smoking, is going to be proven
19 as the cause. These are the major candidates that
20 people were looking at in 1954: Air pollution,
21 radiation and automobile exhaust, the use of the
22 automobile, the tarring of the roads.
23 You will remember in the context of
24 the time it was the fifties that the environmental
25 movement began. So environment. And air pollution

SK

5909

1 Dr. Ludmerer-direct/Randles
2 was a major factor on the mind of the people at that
3 time. Radiation was another important factor. That
4 was a few years after the atomic bomb and a lot of
5 concern about fallout, low levels of radiation. In
6 fact, we learned after the atomic bomb that
7 radiation causes --
8 THE COURT: I am missing something
9 here, Doctor. The Frank statement that you
10 are talking about --
11 Q Let's go to number one under, distinguished
12 authorities point out.

13 THE WITNESS: Number one, your Honor.
14 THE COURT: Of what medical research
15 indicated all of those things you said,
16 which studies specifically?
17 THE WITNESS: Well, there were the
18 Hooper studies that implicated exhaust fumes
19 and air pollution, there was the same type
20 of statistical --
21 THE COURT: Was there an
22 epidemiological study of that?
23 THE WITNESS: Yes.
24 THE COURT: And they concluded what?
25 THE WITNESS: They conclude that air
SK

5910

1 Dr. Ludmerer-direct/Randles
2 pollution and environmental factors were a
3 cause of lung cancer or implicated pollution
4 as a cause of lung cancer.
5 THE COURT: What was that study?
6 THE WITNESS: Well, there are a number
7 of them but they began in the early '50s.
8 And in some of these instances it was not so
9 much that there was evidence but that there
10 were legitimate suspicions.
11 THE COURT: No. The word medical
12 research and suspicion doesn't sound like
13 medical research to me.
14 Q Was there scientific research in the medical
15 literature regarding whether radiation can cause
16 lung cancer?
17 A Yes.
18 Q Was there scientific research in the
19 literature regarding whether air pollution and other
20 factors could cause lung cancer?
21 A Yes, there was.
22 Q Was there research being conducted and
23 reported in this time period?
24 A Yes, it was, and there was also research
25 knowing that some diseases including cancer had
SK

5911

1 Dr. Ludmerer-direct/Randles
2 genetic components. Stomach cancer was known to be
3 hereditary in 1954.
4 THE COURT: Sustained. Strike it out.
5 I only want to talk about, Doctor -- stay
6 with lung cancer only to follow the tenor of
7 this trial.
8 THE WITNESS: Okay.
9 Q Let me ask you about the next sentence.
10 "There is no agreement among the authorities
11 regarding what the cause is."
12 Was that an accurate statement at the
13 time?
14 A Yes.
15 Q Number three, "That there is no proof that
16 cigarette smoking is one of the causes."
17 Doctor, is there a difference in
18 science between evidence and proof?
19 A Yes, there is.
20 Q What is that difference?
21 A Evidence is softer, it is suggestive, it is

22 not the same proof. You really have to have a
23 clearcut closing of the case with no questions.
24 Proof allows no ambiguity. Evidence is suggestive,
25 it is circumstantial, but doesn't really close the
SK

5912

1 Dr. Ludmerer-direct/Randles
2 case in the same fashion.
3 Q Was that an accurate statement at the time,
4 1954?
5 A Yes, it was, 1954. Yes, it was.
6 Q Number four, "That statistics purporting to
7 link cigarette smoking with the disease could apply
8 with equal force to say any one of many other
9 aspects of modern life.
10 Indeed, the validity of the statistics
11 themselves is questioned by numerous scientists."
12 Was that an accurate statement at the
13 time?
14 A Yes.
15 Q What does that mean?
16 A It means that they were unwilling to accept
17 the evidence of 1953 that cigarette smoking caused
18 lung cancer. A statistical association is not the
19 same thing as cause and effect. The same statistical
20 relationship that occurred with cigarette smoking
21 could be shown with the use of the automobile and
22 air pollution and exhaust fumes and the tarring of
23 the roads.
24 So you had that same type of
25 statistical relationship. There was no direct
SK

5913

1 Dr. Ludmerer-direct/Randles
2 experimental evidence. So they were not willing to
3 conclude cause and effect.
4 Q Did you bring an overhead that hopes to
5 illustrate this discussion about the validity of
6 statistics?
7 A Yes, I did.
8 MR. RANGLES: Could we show this to
9 Court and counsel, please, with your
10 permission, your Honor.
11 THE COURT: Yes.
12 Q Could you please tell us what this overhead
13 is meant to illustrate?
14 A We are now in the context of 1953-1954, and
15 in going forward over the next few years, and these
16 are the types of disagreements in discussion that
17 there were in the scientific community at that time.
18 THE COURT: I am having a problem with
19 discussions. I want to frame this in terms
20 of generally accepted scientific
21 information.
22 MR. RANGLES: Okay.
23 THE COURT: I really don't want that
24 somebody disagreed or somebody agreed, I
25 don't really care.
SK

5914

1 Dr. Ludmerer-direct/Randles
2 When you went to the Frank statement,
3 that's one thing. We are passed that now.

4 Generally accepted scientific knowledge.
5 Q Doctor, in terms of generally accepted
6 scientific knowledge from 1954 to 1964, what type of
7 work and debate was going on in the scientific
8 community regarding --
9 THE COURT: Sustained. I am not
10 interested in any debates. I want to know
11 when it became -- he's testified when it
12 became generally accepted, and that was when
13 the 1964 report was digested. Correct?
14 THE WITNESS: Yes, sir.
15 Q Doctor, in terms of the --
16 THE COURT: I don't want to remove
17 that.
18 MR. RANGLES: This is very important to
19 have come into the case.
20 May we come up?
21 THE COURT: Yes.
22 (Whereupon, there was an off-the-record
23 discussion at the bench.)
24 Q Doctor, we're going to move forward to work
25 back.

SK

5915

1 Dr. Ludmerer-direct/Randles
2 A Okay.
3 MR. FINZ: Excuse me, Judge. I am
4 going to object.
5 THE COURT: That's what I told him to
6 do.
7 MR. FINZ: Okay.
8 Q Doctor, in your opinion did the causation of
9 lung cancer by cigarette smoking, was that generally
10 accepted by the scientific community in the
11 aftermath of the 1964 Surgeon General's report?
12 A Yes, it was.
13 Q How did we get there?
14 A We got there through two main devices. One
15 was that new work continued to be done from 1954 to,
16 1964, and if you like I could give examples. But
17 new work, particularly epidemiological work was done
18 that strengthened the case. So the epidemiological
19 case was much stronger in 1959 than it was in 1954
20 and it was much stronger in 1964 than it was in
21 1959.
22 I mentioned that of the seven
23 prospective studies at that time, certainly four of
24 the journals cited were published in the 1960's and
25 also s you are following patients for longer

SK

5916

1 Dr. Ludmerer-direct/Randles
2 periods of time. The relationships between
3 cigarette smoking and lung cancer grew stronger over
4 time. That was persuasive. Also by the '60s data
5 began to come in about ex-smokers, and knowing that
6 there was ex-smokers, people who once smoked and
7 stopped and the risk of lung cancer decreased, and
8 that was a very important piece of evidence.
9 So the main point I want to make is
10 that studies were being done continuously year by
11 year adding to the evidence. And the second thing
12 and even more important is that new statistical

13 tools are being invented and used for the first time
14 as to how to make sense of epidemiological evidence.
15 For example, there was a very
16 important paper published in 1959 that went through
17 the mathematics of how you deal with the confounding
18 issue and the --

19 THE COURT: Remind us of what we're
20 talking about, please.

21 THE WITNESS: Yes, sir. By confounding,
22 that's the interaction of variables. So you
23 have smoking, you have air pollution, you
24 have rural versus urban, you have other
25 medical conditions.

SK

5917

1 Dr. Ludmerer-direct/Randles

2 THE COURT: How would you define
3 confounded? Meaning other factors?

4 THE WITNESS: When you have multiple
5 factors that seem to contribute to an
6 illness, how do you establish the relative
7 risk of one versus the other? If you have
8 only -- in an acute model that, as I said
9 before, dominated medicine for five
10 centuries, it was easy to look at one
11 factor; an infectious organism or toxin.
12 Now, with lung cancer many factors seemed to
13 have a role, some larger, some smaller. How
14 do you tease out how much is hereditary and
15 just having the bad genes? How much is
16 environment?

17 THE COURT: So now we have the
18 confounding paper which was statistically
19 able to deal with various factors, in other
20 words, you don't look at one factor, lung
21 cancer or smoking, you look at lung cancer,
22 environment --

23 THE WITNESS: Pollution.

24 THE COURT: Exhaust.

25 THE WITNESS: Yes, sir.

SK

5918

1 Dr. Ludmerer-direct/Randles

2 THE COURT: Now, that mathematical
3 study is published in 1959?

4 THE WITNESS: For the first time, yes.

5 THE COURT: Doctor, I assume, or a
6 scientific researcher picks up on the
7 confounding study and uses those statistics.

8 THE WITNESS: Yes. Now you start using
9 their technique and you start looking at the
10 same data with this new tool.

11 THE COURT: Which was the first one of
12 those?

13 THE WITNESS: The confounding example
14 was 1959.

15 THE COURT: That was the statistics.

16 THE WITNESS: No. In the same paper
17 the technique, as I recall, for analyzing
18 and confounding, and it was applied to lung
19 cancer.

20 THE COURT: Okay. So they took an older
21 technique which was sometime earlier

22 developed and utilized them?
23 THE WITNESS: No, sir. I would like to
24 rephrase that. You have this data, this
25 statistical data and new tools are
SK

5919

1 Dr. Ludmerer-direct/Randles
2 continuously being invented to analyze the
3 old data and make more sense of the data you
4 already have. And in this particular
5 example, 1959, a new tool to analyze, to
6 deal with the confounding issue was
7 developed and it was used to apply to the
8 old data. The data was from the earlier
9 published study. The new tool was used for
10 the first time.

11 Q And how in terms of importance to the
12 scientific community, how was the development of the
13 analysis of confounding regarded in the scientific
14 community?

15 A It was regarded as a very important event
16 because it was a way to --

17 MR. FINZ: Excuse me. May we establish
18 the paper that we're referring to, your
19 Honor? Was that paper in 1959?

20 Q Do you remember the name?

21 A I think Mantel and Hanzel were credited
22 with having come up with the techniques to handle
23 the confounding problem.

24 Q How was that regarded in the generally
25 accepted scientific community in terms of its

SK

5920

1 Dr. Ludmerer-direct/Randles
2 importance?

3 A It was considered a major step because you
4 can start separating out the factors and it added
5 credibility to the smoking hypothesis.

6 Q The Court already asked you a question on
7 this, but I just want to ask you about the 1964
8 Surgeon General's report.

9 What was the effect on the state of
10 science of this analysis of tobacco and lung cancer
11 and its effect on the state of epidemiology? What
12 was the net effect?

13 THE COURT: Of the 1959.

14 Q All the way up to 1964.

15 THE COURT: All right.

16 Q Do you understand what I am getting at?

17 A Yes. The whole issue of lung cancer was a
18 very positive one for the field of epidemiology of
19 chronic disease. This problem of lung cancer
20 stimulated in the simplest terms the creation of a
21 new field, one that today we take for granted and we
22 use widely.

23 But it was invented and created at
24 this time, in the 1950-to-1964 period, and it comes
25 out of the tobacco controversy. And as I suggested

SK

5921

1 Dr. Ludmerer-direct/Randles
2 it didn't happen in just one brilliant hop, it
3 happened accumulatively.

4 MR. FINZ: I am not objecting to any
5 major tobacco controversy.

6 THE COURT: I'll allow it.

7 A So the point I would like to make is that a
8 new field is created at this time. It's invented,
9 used for the first time and creating a series of
10 steps. It just doesn't happen in one type. It
11 begins with the retro studies in 1950. The last
12 chapter of the creation of this field was the
13 Surgeon General's report of 1964.

14 And in my view as a medical historian
15 this whole issue is as important as this issue was
16 in showing a relationship between cigarette smoking
17 and lung cancer. It was even more important because
18 it gave us a new tool that we subsequently used for
19 many other conditions, high blood pressure,
20 cholesterol.

21 Q Doctor, I want you to assume the jury has
22 heard a lot about the 1964 report and I want you to
23 assume they already know that President Kennedy put
24 the panel together, the Surgeon General assembled a
25 group of distinguished scientists that before had

SK

5922

1 Dr. Ludmerer-direct/Randles
2 not publicly stated their opinion about smoking and
3 lung cancer and they did their work and published
4 their report in 1964.

5 Assume that for me.

6 A Yes.

7 Q The question i have to ask you is this.
8 The first question is, have you prepared an overhead
9 that illustrates the analysis the Surgeon General
10 went through in establishing cause?

11 A Yes, I have.

12 MR. RANGLES: Could you show that to
13 Court and counsel, please?

14 May we put this up?

15 THE COURT: I don't see any problem.

16 MR. RANGLES: Thanks.

17 Q The jury has actually heard of this before
18 so we can move it through with some rapidity, but
19 can you explain to us what was scientifically
20 significant about these five principles?

21 A In this one slide, in this one statement of
22 the Surgeon General a new field matures, clinical
23 epidemiology.

24 When you don't have direct evidence
25 how do you make sense of the data? If you meet

SK

5923

1 Dr. Ludmerer-direct/Randles
2 these five criteria you can conclude cause and
3 effect about lung cancer. In the absence of direct
4 experimental data, if these five criteria are met
5 you can make the conclusions about cause and effect.

6 These criteria were stated for the
7 first time in the Surgeon General's report. The
8 Surgeon General's report used them in analyzing
9 report?

10 THE WITNESS: Yes, sir. It had
11 obviously been growing and people had been
12 talking about it but no one had put it

13 together in one place. The Surgeon
14 General's report made an intellectual
15 discussion about the report. That was it,
16 yes, sir.

17 Q What was the effect on the scientific
18 community of this new analysis?

19 A The general effect was very constructive
20 one. By in large the scientific community using
21 those criteria agreed that in the absence of direct
22 experimental evidence, if those criteria were met
23 you can use indirect statistical evidence to draw a
24 conclusion about cause and effect in lung cancer,
25 ultimately in other conditions as well, and that is

SK

5924

1 Dr. Ludmerer-direct/Randles
2 why the debate, why the arguments in the scientific
3 community quieted down, why they coalesced in the
4 aftermath of the report.

5 Q Do you have an opinion --

6 THE COURT: What strength is there to
7 the statistical correlation?

8 THE WITNESS: Strength is the degree to
9 which in this case cigarette smoking is a
10 threat. If you are a cigarette smoker you
11 have the second times incidence of lung
12 cancer, one point seven times; in other
13 words, the strength of the relationship.

14 THE COURT: It is not correlation?

15 THE WITNESS: Well, consistent, no,
16 sir. Strength is the degree to which a
17 factor is associated with a condition. If I
18 may quote from the Surgeon General's report,
19 a smoker had a one point seven times chance
20 of having heart disease but ten times the
21 chance of having heart disease or lung
22 cancer.

23 THE COURT: That's what you mean by
24 strength?

25 THE WITNESS: Yes. This is why the

SK

5925

1 Dr. Ludmerer-direct/Randles
2 work of the '60s was important to the field
3 because the longer smokers were studied the
4 greater strength of associates became the
5 strength of association -- the data showed a
6 higher strength of association in 1964 than
7 it did in 1954.

8 THE COURT: Because of he continuing --

9 THE WITNESS: Yes, sir. That's just
10 one of the reasons that I am suggesting that
11 the continued study of this for the next
12 decade, not the first prospective study but
13 the continued study of this actually
14 strengthened the association.

15 The longer the people smoked the
16 greater the danger they have. That's what
17 is meant by strength.

18 Q Doctor, based upon the research you have
19 done, your training and the testimony today, do you
20 have an opinion about roughly what year it became
21 generally accepted in the scientific community that

22 smoking caused lung cancer in men?
23 A Yes.
24 Q When was that?
25 A 1964.

SK

5926

1 Dr. Ludmerer-direct/Randles
2 MR. CANDLES: Thank you, Doctor. I
3 have no further questions.
4 THE COURT: We will take a break.
5 (Whereupon, the jury left the
6 courtroom.)
7 (A recess was taken.)
8 (Mark Bowin relieved Steven Karlin as
9 the reporter.)
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SK

5927

1 Proceedings
2 (Dr. Ludmerer resumed the stand.)
3 THE COURT: Go ahead.
4 MR. MANSFIELD: Please note our
5 objection that during the course of
6 Dr. Ludmerer's testimony, we asked
7 certain questions about state of the
8 controversy at the time. The Court
9 directed that those questions be put in
10 the form of "generally-accepted science,
11 generally-accepted conclusions."
12 It's our view that to negate the
13 plaintiff's proof on the point of
14 science -- which is necessary for
15 fraudulent concealment and suppression --
16 that it would not be necessary for there
17 to be generally-accepted proof out there;
18 it would be sufficient that there is
19 simply reliable proof out there that in
20 the mix of things a defendant can take
21 into account and, for that reason, we
22 don't believe that the witness should
23 have been limited to simply evidence
24 which is based on scientifically-accepted
25 or generally-accepted principles.

5928

1 Proceedings
2 THE COURT: Number one, that evidence
3 has been available throughout the trial

4 on behalf of the defendants. I allowed
5 it in, digesting the Frank Statement,
6 specifically.
7 Post Frank Statement and some period,
8 the questions were in the decade prior to
9 '64 and, at which point, I thought there
10 was a balancing factor for the jury's
11 perception because, ultimately, a great
12 deal of their decision has to be based on
13 generally-accepted scientific knowledge.
14 Your objection is noted.
15 MR. MANSFIELD: Thank you, your
16 Honor.
17 THE COURT: I think you have adequate
18 information in the record about all of
19 the scientists who disagreed, from the
20 Mayo Clinic, the chief of cancer at the
21 National Cancer Institute. Of course, we
22 haven't gone into motives for any of
23 this, thankfully, yet -- but we will --
24 and how much was generated by your
25 various clients. We haven't gone into

5929

1 Proceedings
2 that.
3 But that doesn't in self establish a
4 scientific controversy.
5 Counsel, that last statement of mine
6 is based on what I have read in some of
7 the 3101 (D) notices and the accompanying
8 reports that were not presented at the
9 trial.
10 Thank you.
11 (Jury enters courtroom.)
12 THE COURT: Counsel.
13 MR. FINZ: Good morning, everybody.
14 Good morning everybody. Good morning,
15 your Honor.

16 CROSS-EXAMINATION
17 BY MR. FINZ:

18 Q Good morning, Dr. Ludmerer.
19 A Good morning.
20 Q My name is Lenny Finz, and I'm an
21 attorney. And I represent Mr. Clyde Anderson. I
22 just want you to know who I am, sir, and who
23 Mr. Anderson is in this case.
24 Now, Dr. Ludmerer, I'm going to be asking
25 you a lot of questions, and if you can at least

5930

1 Ludmerer-Cross/Finz
2 give me a yes or a no to the question, please do
3 so, if you can. And if you can't, let me know and
4 I'll try to rephrase.
5 Fair enough, sir?
6 A Yes.
7 Q Now, Dr. Ludmerer, you had some
8 connection in the past with Johns Hopkins Medical
9 School; is that correct?
10 A Yes, sir. I was a medical student at
11 Johns Hopkins.
12 Q You went to school at Johns Hopkins.
13 We've had other witnesses here from Johns Hopkins
14 as well.

15 Okay. Now, as I understand it, sir,
16 sometime in 1988 or 1989, you were a member of the
17 faculty; is that right?
18 A At Johns Hopkins?
19 Q No. Anyplace.
20 A Washington University. That's correct.
21 Q Okay. And in 1988, a lawyer from Shook,
22 Hardy went over to you and asked whether or not you
23 would do some research for a case that was going to
24 start in New Jersey called the Cipollone case,
25 against the tobacco defendants in this case; isn't

5931

1 Ludmerer-Cross/Finz
2 that right?
3 A No, that's not correct.
4 Q Well, were you ever asked to do research
5 by a lawyer from Shook, Hardy?
6 A No.
7 Q Never? Was that your answer?
8 A I was approached by a lawyer from Arnold
9 and Porter, not Shook, Hardy.
10 Q From Arnold Porter?
11 A An attorney from the Arnold and Porter
12 law firm did contact me. Yes, I was contacted by
13 an attorney in 1988, but a different firm.
14 Q Now, this Arnold Porter, do you know the
15 full name of that firm?
16 THE COURT: Yes, that's the name.
17 Q It's a rather large firm, right?
18 THE COURT: Yes. In Washington.
19 MR. FINZ: Okay.
20 Q So that Arnold Porter, whoever that
21 person was, introduced you to somebody from the
22 Shook, Hardy firm in Kansas City, Missouri; is that
23 right?
24 A I really don't remember my contact at
25 that time --

5932

1 Ludmerer-Cross/Finz
2 Q Well, sir, either you remember or you
3 don't. If you don't remember, that's an answer.
4 A No, I don't remember. My --
5 Q Did you ever testify, sir, that,
6 actually, you were engaged by the firm of Shook,
7 Hardy to do research in connection with tobacco and
8 health-related issues?
9 Did you ever so testify? Yes or no.
10 A I'm confused by the firms and the date.
11 Shook, Hardy contacted me for this case,
12 but 1988, it was Arnold and Porter, and I did the
13 research for Arnold and Porter; and that's what I
14 testified the one time.
15 Q Was Arnold Porter at that time involved
16 in defending any of the tobacco defendants in this
17 case?
18 A This case today.
19 MR. RANGLES: Object to form and
20 relevance.
21 Q Was Arnold Porter involved in defending
22 any of the tobacco defendants at that time in the
23 Cipollone case?
24 THE COURT: In other words, if you
25 know. Was Arnold and Porter representing

1 Ludmerer-Cross/Finz
2 a company -- well, who were they
3 representing, if you know? Let's start
4 there. This is going to be easier.

5 THE WITNESS: Would it be easier,
6 your Honor, if I just stated how I got
7 involved?

8 THE COURT: No. He did not ask you
9 how you got involved; he's asking you
10 which company, if you know.

11 THE WITNESS: I do not know what
12 companies Arnold and Porter was
13 representing. I knew they were
14 representing cigarettes, but I cannot
15 tell you, your Honor, which companies.

16 THE COURT: Okay.

17 Q Let me get back to that question again.
18 Did you have any contact with any lawyers
19 from the Shook, Hardy firm in either 1988 or 1989?

20 A I believe, to the best that I can recall,
21 that --

22 Q With a yes or no, sir.

23 A The answer is, I don't remember for sure.

24 Q You don't remember.

25 Now, isn't it a fact, sir, that you were

5934

1 Ludmerer-Cross/Finz
2 contacted by a lawyer from Shook, Hardy who asked
3 you to do research for them in connection with a
4 case that was coming up in New Jersey called the
5 Cipollone case?

6 A No, sir, that's incorrect.

7 Q Now, prior to 1988, sir, had you ever
8 done any research on tobacco and health-related
9 issues?

10 A Tobacco, no. Health-related issues, yes,
11 as a historian in medicine.

12 Q Had you ever done anything with tobacco
13 and health-related issues prior to 1988?

14 A Are you talking the link between the two?

15 THE COURT: Yes, the link.

16 A (Cont'g) The answer to that is no.

17 Q So now you started that in 1988; is that
18 correct?

19 A That's correct. And if I can just --

20 Q No, no. That's an answer.

21 Now, isn't it a fact that you started
22 that in 1988 for the purpose of a trial that was
23 going to start sometime in New Jersey called the
24 Cipollone case?

25 A Those were not the circumstances that I

5935

1 Ludmerer-Cross/Finz
2 was contracted.

3 Q You were given some assignment in
4 connection with research; is that correct? Yes or
5 no.

6 A In connection with research, yes.

7 Q And the assignment that you were given
8 was to research the articles in connection with
9 lung cancer and health-related issues from 1950 to
10 1964; isn't that right?

11 A No, sir.
12 Q Was it from 1930 to 1964?
13 A Your question is erroneous for two
14 reasons.
15 Q Well, I don't want the erroneous part of
16 my question. Then I'll withdraw my question, if
17 it's wrong.
18 A The question is wrong.
19 Q In any event, Dr. Ludmerer, you did
20 research in 1988; is that correct?
21 A That's correct.
22 Q And you did research in 1989; is that
23 correct?
24 A That's correct.
25 Q And you reported that research to lawyers

5936

1 Ludmerer-Cross/Finz
2 representing certain tobacco defendants; isn't that
3 right?
4 A Arnold and Porter, yes, sir.
5 Q Didn't you report to Shook, Hardy?
6 A No, not at that time.
7 Q When did you report to Shook, Hardy?
8 A Not until recently.
9 Q This is the first contact you've had with
10 Shook, Hardy in this case? Is that what you're
11 saying?
12 A In this case, this is the first contact
13 that I had with Shook, Hardy. I had contact with
14 Shook, Hardy in one previous case last year. But
15 prior to 1999, I had no contact, that I remember,
16 with Shook, Hardy.
17 Q Okay. Let's go back with whoever the
18 lawyers were who contacted you in 1988.
19 Now, you ultimately did some research
20 through Index Medicus; is that correct?
21 A That was part of it.
22 Q That was part of it. You wanted to learn
23 all that you could in connection with tobacco and
24 health-related issues, starting with one period and
25 finishing with another period.

5937

1 Ludmerer-Cross/Finz
2 A That's correct.
3 Q All right. And the purpose for that was
4 to report to a law firm; isn't that right? Yes or
5 no? Yes or no, sir?
6 A No.
7 Q Was that one of the purposes?
8 A The purpose was to find out --
9 Q Yes or no?
10 A No.
11 Q Was it one of the purposes that you were
12 to research what you just described that you had
13 researched, for the purpose of one day testifying
14 on behalf of a tobacco manufacturer?
15 A No, that was never part of the discussion
16 at that time.
17 Q Well, sir, were you ever paid for the
18 research that you did?
19 A I was paid for my time, as I already
20 testified.
21 Q Naturally. Were you paid for your time?

22 A Yes, I was.
23 Q You said you put in a thousand hours,
24 right?
25 A That's correct.

5938

1 Ludmerer-Cross/Finz
2 Q And the thousand hours was covered over a
3 period of two years; is that right?
4 A That's what I said.
5 Q How much are you getting paid, by the
6 way, for all the time you're in court now?
7 A Now it's \$300.
8 Q Then it was \$200 a hour?
9 A Correct.
10 Q We're talking about something about 12
11 years ago; is that right?
12 A Roughly.
13 Q So 12 years ago, what may be \$300 now was
14 \$200 then, thereabout, right?
15 A Correct.
16 Q Okay. Now, in the research that you were
17 doing, sir, this was not for any peer-reviewed
18 journal, was it?
19 A No, it was not.
20 Q It wasn't for the purpose of the
21 advancement of science, was it?
22 A It was private research.
23 Q It was private research for a defense
24 firm defending the tobacco interests; isn't that
25 correct?

5939

1 Ludmerer-Cross/Finz
2 A Well, they certainly had access to my
3 results?
4 Q Sir?
5 A They had access to my results.
6 Q You said "they had access." They paid
7 for your results; isn't that right?
8 A No, that's incorrect.
9 Q Well, isn't it a fact that the law firm
10 paid for your results? Yes or no?
11 A They paid for my time.
12 MR. RANGLES: Objection, your Honor.
13 Objection to form.
14 THE COURT: They paid for his time.
15 Let's go on.
16 Q The law firm paid for your time, correct?
17 A Correct.
18 Q And the law firm got its money from the
19 tobacco people that retained that law firm, right?
20 A I presume so.
21 Q And you put in a thousand hours, at
22 least, at \$200 a hour -- I don't even need the
23 calculator to tell me that that comes to \$200,000.
24 Is that right, sir?
25 A That's correct.

5940

1 Ludmerer-Cross/Finz
2 Q And the fact is, sir, that you did
3 testify on behalf of the defendant in a rather
4 recent case -- on behalf of a defendant on one of
5 the recent cases; isn't that correct?
6 MR. KACZYNSKI: Object to the form,

7 unless the defendant's identified.
8 Q Didn't you testify in the case of the
9 Estate of Jesse D Williams --
10 A That's correct. Last year.
11 Q -- against Philip Morris? Right?
12 A Correct.
13 Q Now, in connection with the research that
14 you were doing, sir, you were, at that time, a
15 teacher in the University of Washington; isn't that
16 correct?
17 A No.
18 THE COURT: No.
19 MR. FINZ: I'm sorry.
20 THE COURT: Washington University in
21 St. Louis.
22 Q Washington University in St. Louis,
23 correct?
24 A Yes. Two different schools. Two
25 different parts of the country.

5941

1 Ludmerer-Cross/Finz
2 THE COURT: We have a New York view
3 of America.
4 Go ahead.
5 Q Now, sir, in doing the research that you
6 did with Index Medicus, you said you read 1200 to
7 1400 articles, right?
8 A Correct.
9 Q Now, you had to gather these articles
10 together, correct?
11 A Yes.
12 Q Somebody assisted you in doing that?
13 A No, I did it by myself.
14 Q Somebody had to type certain reports out?
15 A I did it all myself.
16 Q Somebody had to file -- By the way, were
17 you in contact with any of the people who had
18 retained your services during that two-year period
19 of time?
20 A I was in contact with the Arnold and
21 Porter people who contacted me, yes.
22 Q So that you would have communication with
23 those people; is that right?
24 A Periodically.
25 Q You would at least give them progress

5942

1 Ludmerer-Cross/Finz
2 reports; is that correct?
3 A Correct.
4 Q As you gave them progress reports, they
5 would send you checks, right, from time to time?
6 A From time to time.
7 Q Did you ever sit down with any of the
8 attorneys from those defense firms?
9 A You mean meetings?
10 Q Yes.
11 A We had a few meetings.
12 Q You had meetings; in other words: "How
13 you doing, Doc? Where are we going here?" And you
14 would bring them up to date with whatever your
15 research was at the time; is that correct?
16 A That's correct.
17 Q Now, Doctor, if I can swing over -- by

18 the way, if I can swing over to history.
19 Interesting subject.
20 Would you agree, sir, that when we're
21 speaking about history, we're talking about
22 something that requires historical integrity.
23 Is that important?
24 A Yes, it is.
25 Q Now, historical integrity, sir, means
5943
1 Ludmerer-Cross/Finz
2 that, in essence, we have to look back in time to
3 see what it is that we are looking at has some
4 relevancy to the period; is that correct?
5 That would be one of the reasons.
6 A That's correct, which was in my
7 principles --
8 Q Thank you --
9 A -- of doing history, which is part --
10 Q I appreciate that.
11 You also mentioned something like
12 President Eisenhower. In other words, that was
13 history that you have developed or you have
14 studied, is not unique in your particular field; in
15 other words, when we speak of history, we can speak
16 almost generically about history. An historian has
17 certain criteria that an historian applies, right?
18 A You mean all fields of history?
19 Q Generally. This is not a history course;
20 but in a most general sense?
21 A Yes.
22 Q In other words, an historian, looking at
23 an event that took place fifty or a hundred years
24 ago -- obviously, in most cases, was not present at
25 that event and, therefore, the historian has to
5944

1 Ludmerer-Cross/Finz
2 look at a body of information; isn't that
3 correct --
4 A That's correct.
5 Q -- to see if something was said by
6 somebody, then not merely report what was said but
7 it becomes important to see what were the
8 circumstances, the historical circumstances --
9 A The context, as I called it.
10 Q Right. The historical circumstances.
11 For example, if we just took a statement
12 such as: "Four score and seven years ago, our
13 forefathers brought this nation a new continent,"
14 (sic) that would have no meaning unless we
15 historically examined that within the context
16 within which it was said; isn't that correct?
17 A Correct.
18 Q Now, we know it was the Gettysburg
19 address -- right?
20 A Uh-huh.
21 Q -- in 1864 by Abraham Lincoln, correct?
22 MR. RANGLES: Your Honor, I suppose I
23 have an objection to going back to the
24 late 1800's. I think we're past the
25 period.

5945

1 Ludmerer-Cross/Finz
2 THE COURT: Well, we're going to look

3 for some research.
4 MR. RANGLES: Couldn't we look for
5 some in this century?
6 THE COURT: Let's see where we're
7 going.
8 Q In other words, you would not take a
9 statement in an isolated form as an historian
10 without looking at the circumstances surrounding
11 that statement. Am I correct about that?
12 A Yes. And that's exactly what I put --
13 Q We all know what you put there, Doctor.
14 We all know that. You said it three times.
15 MR. RANGLES: Your Honor, move to
16 strike counsel's frivolous comments.
17 THE COURT: All such comments coming
18 from every such place by anyone during
19 the entire course of this trial -- and
20 there have been many -- are all stricken.
21 Q Now, we would want to examine the entire
22 context of that statement; is that right?
23 A Correct.
24 Q We would also want to establish who
25 actually was the declarant of that statement; who

5946

1 Ludmerer-Cross/Finz
2 made that statement; isn't that correct?
3 A Correct.
4 Q That would be historically accurate;
5 would it not?
6 A Yes, it would.
7 Q We would also want to establish, for
8 example, why did such a person -- or why did that
9 person make that statement. That would be
10 historically correct; would it not?
11 A Correct.
12 Q Would we also want to establish when that
13 statement was made; that would be historically
14 correct?
15 A Yes.
16 Q And would we always want to establish how
17 that statement was received by the persons to whom
18 that statement was made; is that right?
19 A If you could, certainly.
20 Q If you could, that would all be good
21 historical background, good historical learning;
22 isn't that correct?
23 A Yes.
24 Q All right. And we would also want to get
25 as much information as we possibly could so that

5947

1 Ludmerer-Cross/Finz
2 the statement that we are now historically
3 evaluating is not in a vacuum but is something that
4 has a particular meaning with respect to some event
5 or events of history; isn't that right?
6 A Yes.
7 Q Okay. For example, in another couple of
8 weeks we're going to be celebrating the
9 independence of our nation, July 4th; is that
10 correct, sir?
11 A Yes.
12 Q July 4th, 1776 -- Now, I'm going back 224
13 years.

14 MR. RANGLES: I know my history, and
15 our math.
16 Q Now, sir, we are going back now.
17 Now, is it not a fact that when certain
18 very significant leaders of our nation at that time
19 were meeting in Philadelphia, there was a big
20 discussion as to whether or not the Colonies of the
21 United States should separate from the British
22 Empire or should establish its own autonomy or
23 whether or not there should be some other action
24 taken; isn't that correct?
25 A Correct.

5948

1 Ludmerer-Cross/Finz
2 Q In fact, Thomas Jefferson from Virginia
3 had a particular point of view; did he not?
4 A I believe so.
5 Q John Adams from Massachusetts had a
6 particular point of view; did he not?
7 A I presume so.
8 Q Benjamin Franklin from Pennsylvania had a
9 point of view; did he not?
10 A I presume so. I'm not an expert on the
11 Revolutionary War.
12 Q Well, I understand that, sir?
13 THE COURT: Can't you talk about
14 anybody from New York?
15 MR. FINZ: Okay.
16 Q Samuel Chase from New York had a point of
17 view also. But a point of view is this: There was
18 a discussion in the chamber, under that bell in
19 Philadelphia, concerning what should or should not
20 be done with respect to the 13 Colonies; isn't that
21 correct, sir?
22 A I presume so.
23 Q Now, following that, there was a
24 consensus, was there not?
25 A Yes, there was.

5949

1 Ludmerer-Cross/Finz
2 Q In fact, on July the 4th, we celebrate
3 that consensus, and that consensus is known as the
4 Declaration of Independence; isn't that right?
5 A Correct.
6 Q Okay.
7 MR. RANGLES: Your Honor, I object to
8 all this.
9 THE COURT: Counsel, this is valid
10 cross by illustration.
11 MR. FINZ: I'm glad -- okay.
12 Q Now, in order to identify what it means
13 as to what the Declaration of Independence is, we
14 have to examine what was happening during that
15 period of time; isn't that correct?
16 A Correct.
17 Q Let me go to another example, and perhaps
18 we can take a more recent example; and a more
19 recent example is about six months ago or seven
20 months ago, we passed what was known as December
21 the 7th of the year 1999.
22 Now, December the 7th is an important
23 date in American history; is it not?
24 A Are you referring to Pearl Harbor?

25 Q Because it's Pearl Harbor. Now, if we
5950

1 Ludmerer-Cross/Finz

2 just heard the statement of a President of the
3 United States who said, "Today is a day that will
4 live in infamy," and that's all that we heard, that
5 would have very little meaning; would it not?

6 A You mean someone from 1941?

7 Q If all that we heard, knowing nothing
8 about Pearl Harbor, knowing about the events that
9 led to Pearl Harbor, knowing nothing about the
10 surprise attack by the Japanese Government in
11 Honolulu at Pearl Harbor, knowing nothing about
12 that but just hearing the words, "Today is a day
13 that will live in infamy," historically speaking,
14 has very little import or understanding; isn't that
15 correct?

16 A You're quite correct. We need to know
17 much more about it.

18 Q We have to know what it is that President
19 Franklin Delano Roosevelt meant when he said what
20 he said. We have to know the events that surround
21 that statement. We have to know the motive of that
22 statement, the intent of that statement, the
23 message of that statement and to whom that message
24 was being delivered; isn't that right?

25 A Sounds right to me.

5951

1 Ludmerer-Cross/Finz

2 Q Okay. Let's take another example. How
3 about if --

4 THE COURT: We'll stop at three,
5 right?

6 MR. FINZ: I'd like to stop at five,
7 Judge. They're very simple.

8 THE COURT: Go ahead.

9 MR. FINZ: Thank you, Judge.

10 Q Let's take another example.

11 If we heard the term, "Ask not what your
12 country can do for you, but ask what you can do for
13 your country," I don't think there's a person here
14 who would not identify that statement with part of
15 the inauguration address of the late President John
16 F. Kennedy, Jr., in January of 1961; am I correct?

17 A Presumably.

18 Q But, if we did not know that that was the
19 inauguration --

20 THE COURT: Counsel, that's only
21 because you haven't taught in a college
22 recently.

23 MR. FINZ: Beg your pardon? Okay.

24 MR. RANGLES: He's got the wrong
25 Kennedy, by the way. It's not Junior.

5952

1 Ludmerer-Cross/Finz

2 Q If we did not know that that was the
3 inauguration address, and if we did not know that
4 was being stated in Washington D.C. when he was
5 being sworn as the president of the United States,
6 that statement, in and of itself, would have rather
7 ambiguous meaning; am I correct?

8 A I believe you are correct.

9 Q It would be important for us to look at

10 the events and see what the events were that
11 prompted that kind of a statement.
12 Let me go to something, and I'm going to
13 be finished with this in just a minute, I promise,
14 Judge.

15 Now, in 1964, there was a civil rights
16 leader by the name of the Reverend Martin Luther
17 King who stood in Washington D.C. and made a most
18 inspiring speech entitled, "I have a dream."

19 Now, if one heard the speech, "I have a
20 dream," without the context of which it was said or
21 what motivated that speech, it would have very
22 little meaning or would be confusing to those who
23 are not aware of the struggle on behalf of the
24 civil rights movement; isn't that correct?

25 A Correct.

5953

1 Ludmerer-Cross/Finz

2 Q So it becomes important for us to look at
3 the motives, the background, the energy behind the
4 Declaration and the message itself; isn't that
5 right?

6 A Correct.

7 MR. FINZ: I'm going to take just one
8 more, Judge, and I'm going to be through
9 with this. With this point. Well, in
10 fact I have one more -- well, yeah, let
11 me take another one. Let me take one or
12 two.

13 Q For example, you, as an historian, in
14 applying sound historical principles, have to look
15 at what was happening at the time; but by using
16 whatever knowledge we have to give us an accurate
17 picture of what was developing or happening at the
18 time; isn't that right?

19 A Yes.

20 Q Okay. Let's take World War I. And we
21 all have studied history in high school; and some
22 of us have studied it in college; and some of us
23 have studied beyond that.

24 We know that, if we read history, World
25 War I, was started by the assassination of Duke

5954

1 Ludmerer-Cross/Finz

2 Ferdinand at Sarajevo in Austria, isn't that
3 correct?

4 THE COURT: Not in Austria; what was
5 then Austria-Hungry.

6 Q (Cont'g) Am I correct about that?

7 A Yes.

8 Q However, if someone asked: What started
9 World War II and one said it was the assassination
10 of Duke Ferdinand --

11 MR. RANGLES: World War I.

12 Q World War I.

13 -- would that be historically correct?

14 A Well, I'm not an expert on World War I,
15 but certainly there's a much broader context than
16 the assassination.

17 Q Ah, in other words, you may have to look
18 at the entire picture. That may have been what was
19 being said at that time, but you have to look at
20 something beyond that to see what was really

21 happening within the period; isn't that correct?
22 A Yes.
23 Q Now, let me go to World War II.
24 If somebody said that World War II was
25 started because Germany invaded the Sudetenland and
5955

1 Ludmerer-Cross/Finz
2 wanted to take this small piece of what it
3 considered to be part of Germany for its own
4 purposes, that would not be historically accurate;
5 am I correct about that?

6 A I'm sorry?
7 Q Did you lose me there?
8 A With all these examples, I didn't follow
9 that last one. But I can say, in general, this is
10 why I put context --

11 Q We understand. That's the fourth time
12 you said it. We understand that.

13 A There have been quite a few examples, and
14 I just want to reiterate, this is how you look at
15 context.

16 Q You'll get it in anyway, Doctor. We'll
17 get that.

18 MR. RANGLES: Your Honor, I object to
19 these comments sprinkled in the midst of
20 this irrelevant cross-examination.

21 Q You spoke about the Frank Statement,
22 right?

23 A Yes, I did.

24 Q Okay. Now you, as an historian,
25 recognize that in order to historically assess what
5956

1 Ludmerer-Cross/Finz
2 was happening at the period of the time that an
3 event is taking place or a statement is being made,
4 it becomes important to look at the totality of the
5 event itself; isn't that right?

6 And we've given some examples of that.
7 Am I correct about that?

8 A As much as possible.

9 Q Are you aware, sir, that in 1953, more
10 particularly in December of 1953, a meeting was
11 called -- by the then president of one of the
12 tobacco companies, Paul Hahn -- of other members of
13 the tobacco industry.

14 Are you aware of that, sir?

15 A No.

16 Q Well, sir, as an historian, one who has
17 testified to this jury just moments ago about the
18 Frank Statement, didn't you have any historical
19 curiosity as to how it is that this Frank Statement
20 is suddenly published someplace?

21 Didn't you ask that question to yourself
22 historically? Yes or no. Yes or no. That's all
23 that I want. I want no speeches. I want a yes or
24 no to my question.

25 A Your question, as you phrase it, does not
5957

1 Ludmerer-Cross/Finz
2 allow a yes or no answer.

3 Q Okay. Then I'll rephrase it.

4 You saw the Frank Statement before today.
5 Yes or no?

6 A Before today?
7 Q Yes.
8 A I have seen the Frank Statement.
9 Q Now, when you saw the Frank Statement and
10 recognized that this was a statement that went back
11 to January 4th of 1954 -- we're talking a period of
12 years, of 46 years ago -- you, as an historian,
13 were you not curious as to what were the events
14 surrounding --
15 THE COURT: Were you not curious as
16 to its contents.
17 MR. FINZ: Thank you, Judge.
18 Q Were you not curious as to its contents?
19 Yes or no? Can you give me a yes or no to that?
20 A Your questions don't allow a yes-or-no
21 answer. They really --
22 Q Fair enough. In any event, sir, did you
23 ever, in the framework of its contents, make any
24 historical inquiry as to, A, how did this statement
25 come about?

5958

1 Ludmerer-Cross/Finz
2 Did you ever do that? Was that one of
3 the criteria? Did you ever ask that historical
4 question: How did it come about? Yes or no.
5 A That would have been a different issue.
6 Q Did you ever meet that issue? Yes or no.
7 A Well, it's a different topic --
8 Q Did you ever meet that issue, Doctor?
9 It's a very simple question.
10 A Your questions are not questions --
11 Q You can't answer that --
12 A You're not allowing questions --
13 Q Did you ever ask the historical question:
14 Who wrote this document? Did you ever ask that
15 one?
16 That was one of your criteria, you
17 remember. I asked you about that. You said that's
18 important.
19 Did you ever ask that question: Who
20 wrote it? Yes or no.
21 A The question I asked, was it --
22 Q Doctor, I want a response to my question.
23 A I would be delighted to tell you how I
24 approached my research, if you gave me the time to
25 do that.

5959

1 Ludmerer-Cross/Finz
2 Q I know you'd be delighted to do it --
3 MR. RANGLES: Your Honor, object to
4 the form. Object to counsel's manner of
5 asking questions.
6 THE COURT: Please don't make
7 extraneous comments, either one of you,
8 because you seem to be responding to each
9 other.
10 Q Doctor, my question is this.
11 Did you ever ask the historical -- you
12 said one of the criteria to establish historical
13 integrity -- and I'm quoting you, Doctor -- you
14 said you want to know who wrote it. That was one
15 of the criteria that you stated was related to
16 historical integrity, right?

17 A Could you repeat that question?
18 Q Of course. You stated that one of the
19 criteria in establishing historical integrity was,
20 quote, who wrote it; who wrote the statement;
21 right?
22 A In general, that's a correct principle.
23 Q Now, historically speaking, Dr. Ludmerer,
24 did you ever find out who wrote the Frank
25 Statement?

5960

1 Ludmerer-Cross/Finz
2 A You mean which individual?
3 Q (Gesturing.)
4 THE COURT: Did you ever find out
5 which individual?
6 THE WITNESS: No. As I said, I
7 looked at, was it a reasonable response
8 to the science at the time; but I did not
9 go into the history of the Frank
10 Statement, as I said several times.
11 Q We understand.
12 Doctor, the question his Honor asked and
13 the question I'm going to ask is -- and all I need
14 is a yes or no or you don't know -- did you ever
15 make any historical inquiry as to who wrote the
16 Frank Statement. Yes or no.
17 A I did not look into its history.
18 Q Thank you. Now, sir, you said another
19 criteria for historical integrity is to ask the
20 question, why was that statement or why was that
21 article -- why did they write it? Isn't that
22 correct?
23 A Sure.
24 Q Okay. Did you ever ask the question,
25 historically, as to why the Frank Statement was

5961

1 Ludmerer-Cross/Finz
2 written? Did you ever ask that question,
3 historically? Yes or no.
4 A My inquiry focused on the scientific
5 community. I did not study the tobacco company or
6 its behavior.
7 Q Sir, your answer is what?
8 A My answer is, I did not study the Frank
9 Statement or its history. I have studied the
10 science --
11 Q But you testified at length about the
12 Frank Statement, and that's why I'm asking you
13 about it, Doctor.
14 A The questions I was asked had to do --
15 Q Excuse me. There's no question before
16 you.

17 MR. RANGLES: Well, if there's no
18 question, can we have counsel's comments
19 stricken?

20 THE COURT: Hold on. Hold on.
21 Doctor, I'd like to ask a question.

22 THE WITNESS: Yes, sir.

23 THE COURT: What use, if any, did you
24 make of the Frank Statement in your
25 research?

5962

1 Ludmerer-Cross/Finz

2 THE WITNESS: It was used in terms of
3 the questions that were asked today: Was
4 it a reasonable representation of the
5 state of scientific knowledge.

6 THE COURT: Did you research at all
7 into the Frank Statement --

8 THE WITNESS: No, I did not research
9 how it came about, other than what it
10 said itself; that it was a response from
11 the company. I didn't do a history of
12 company behavior or responses.

13 MR. FINZ: May we approach, then,
14 your Honor?

15 (Discussion at the bench off the
16 record.)

17 Q Now, sir, having examined the articles
18 that you reviewed from your Index Medicus from 1930
19 to 1964 --

20 A The world's literature.

21 Q Let me take you up to 1954, the Frank
22 Statement.

23 Was there anything left out of the Frank
24 Statement in 1954 that was within the knowledge of
25 the generally-accepted scientific community,

5963

1 Ludmerer-Cross/Finz

2 Doctor? Yes or no.

3 MR. KACZYNSKI: Objection. Vague,
4 your Honor.

5 THE COURT: Overruled.

6 A I'm trying to remember if they referred
7 to the retrospective studies. As I recall -- I
8 don't have it in front of me --

9 Q That's not my question, Doctor.

10 The question was, was there anything left
11 out or omitted from the Frank Statement in 1954
12 that was within the generally-accepted scientific
13 community's knowledge at that time? Yes or no.

14 A Well, there are lots of things within the
15 scientific community, and even in terms of lung
16 cancer; it's natural history. You can think of
17 lots of topics.

18 Q Sir, was there anything in the Frank
19 Statement with respect to what the
20 generally-accepted body of scientific knowledge was
21 relating to cigarette smoking and lung cancer? Yes
22 or no.

23 A I believe it was a very reasonable
24 representation of what was known at the time.

25 Q Well, sir, was there any representation

5964

1 Ludmerer-Cross/Finz

2 made that there was generally-accepted scientific
3 information that cigarette smoking caused lung
4 cancer?

5 A Well, it mentioned that there was --

6 Q Yes --

7 A -- that there was some evidence; that
8 many people didn't believe that the evidence proved
9 cause and effect. To me, that's a very reasonable
10 representation of the state of scientific knowledge
11 at that time.

12 Q Doctor, was there anything stated there

13 within the Frank Statement that the scientific
14 community --
15 THE COURT: Is this what you're
16 looking for (Indicating)?
17 MR. FINZ: No, I have it right here,
18 Judge. Maybe -- let me see what you're
19 looking at. No, I have the statement,
20 but I thank you very much.
21 Q Sir, was there anything -- following up
22 on the question -- in the Frank Statement that
23 referred to an editorial in the New England Journal
24 of Medicine of 1953 -- which was in advance of the
25 Frank Statement -- which, in sum or substance, held

5965

1 Ludmerer-Cross/Finz
2 that male smokers between ages 45 and 64 are up to
3 34 times more likely to get lung cancer than
4 nonsmokers of the same age?
5 Was that contained in the Frank Statement
6 or was it left out of the Frank Statement? Yes or
7 no.
8 A Well --
9 Q Can you answer that question with a yes
10 or no --
11 A Your question doesn't really allow a
12 yes-or-no response.
13 THE COURT: Doctor, answer it any way
14 you choose to.
15 Q Okay.
16 A The Frank Statement pointed out that
17 there was evidence that was being accumulated --
18 THE COURT: No, no, Doctor. Let's
19 not talk in generalities. Did the Frank
20 Statement refer to the editorial --
21 THE WITNESS: Did it refer to it
22 specifically?
23 THE COURT: Yes, that's the question.
24 THE WITNESS: No, I don't believe it
25 did, sir.

5966

1 Ludmerer-Cross/Finz
2 THE COURT: Next question.
3 Q Now, sir, did the Frank Statement refer
4 to the studies performed by Claude Teague of the
5 R.J. Reynolds Corporation --
6 MR. KACZYNSKI: Objection, your
7 Honor.
8 Q -- in 1953?
9 MR. KACZYNSKI: Can we approach?
10 Yes, I know it's in evidence.
11 (Discussion at the bench off the
12 record.)
13 THE COURT: Reframe the question.
14 Q Did the Frank Statement refer to any
15 survey conducted by Claude Teague, which was the
16 Survey of Cancer Research with Emphasis Upon
17 Possible Carcinogens From Tobacco, which was
18 published in 1953 --
19 MR. KACZYNSKI: Objection, your
20 Honor. That mischaracterizes it. It
21 wasn't published.
22 MR. FINZ: It certainly was reported
23 within the documents of the company.

24 Q (Cont'g) -- stating that it confirmed the
25 relationship between smoking and lung cancer and

5967

1 Ludmerer-Cross/Finz
2 the presence of carcinogens in cigarettes?
3 Was that contained in the Frank Statement
4 in 1954?

5 MR. KACZYNSKI: I object to the
6 characterization of the summary of the
7 document. Let's quote from the document.

8 THE COURT: Let me reframe the
9 question, with your permission, Counsel.

10 MR. FINZ: Sure, Judge. Thank you.

11 THE COURT: Did any of this statement
12 refer to any conclusions of the
13 scientists in the tobacco companies prior
14 to 1954?

15 Did the statement refer to any
16 conclusions of the tobacco researchers?

17 THE WITNESS: Apparently not, no.

18 THE COURT: Apparently not.

19 Next question.

20 MR. FINZ: Judge, it's one o'clock.

21 Can we take a break?

22 THE COURT: Yes, absolutely.

23 MR. FINZ: Thank you very much.

24 THE COURT: I'll see you five after
25 one.

5968

1 Ludmerer-Cross/Finz
2 A JUROR: Five after one?
3 THE COURT: Five after two.
4 This is the second time you caught
5 me, right?
6 (Luncheon recess, after which Diane
7 Dorsey replaced Mark Bowin as Official
8 Court Reporter.)
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5969

1 Colloquy
2 A-F-T-E-R-N-O-O-N S-E-S-S-I-O-N
3 (The following takes place in open
4 court, out of the presence of the jury.)
5 MR. LONDON: I just wanted to clear
6 something up on the record that we were
7 discussing last week.
8 I believe there was a juror who was

9 contacted, and I wanted to know if we
10 found out which juror it was.
11 THE COURT: It was Guzman.
12 MR. LONDON: She was excused, and
13 she was contacted by whom?
14 MR. KACZINSKI: By us.
15 MR. QUIGLEY: We told you that
16 Thursday.
17 MR. LONDON: But it wasn't on the
18 record, so I understand the Court's
19 ruling is jurors who have been excused
20 can be contacted?
21 THE COURT: Yes.
22 MR. FINZ: Your Honor with the
23 Court's permission, can they be
24 instructed that although they can be
25 contacted, that perhaps it might be best

5970

1 Colloquy
2 if they have no contact with any of the
3 existing jurors while the case is on?
4 THE COURT: I'm assuming that the
5 jurors here -- if you want, at the end
6 of the day, I will reiterate that to
7 them.
8 MR. FINZ: Thank you.
9 THE COURT: You can bring the jury
10 in.
11 COURT OFFICER: Jury entering.
12 COURT CLERK: You may be seated.
13 THE COURT: Good afternoon
14 everybody. We had a request for the
15 last question to be read back for the
16 sake of continuity.
17 Go ahead.
18 COURT REPORTER M. BOWIN: You had
19 the last question, your Honor.
20 THE COURT: I did?
21 (Record read back by court reporter
22 M. Bowin.)
23 "THE COURT: Did any of this
24 statement refer to any conclusions of
25 the scientists in the tobacco companies

5971

1 Colloquy
2 prior to 1954? Did the statement refer
3 to any conclusions of the tobacco
4 researchers?
5 "THE WITNESS: Apparently not; no.
6 "THE COURT: Apparently not.
7 Next question."
8 COURT REPORTER M. BOWIN: And then
9 we broke for lunch.
10 MR. FINZ: Thank you, your Honor.
11 This is in evidence, your Honor.
12 With the Court's permission, may we
13 just flash this for Court and counsel
14 please? It's the Frank Statement.
15 May I put that on the screen, your
16 Honor please?
17 THE COURT: Yes.
18 CROSS-EXAMINATION
19 BY FINZ:

20 Q So there is no misunderstanding,
21 Dr. Ludmerer --
22 MR. FINZ: Good afternoon everybody.
23 By the way, good afternoon, your
24 Honor.
25 Q So there is no understanding, sir, this
5972

1 Dr. Ludmerer-Cross-Mr. Finz
2 is the Frank Statement that we were talking about;
3 correct?

4 A Correct.

5 Q I wish to draw your attention to one
6 portion on it, sir; and you were asked a series of
7 questions by Mr. Randle.

8 You read a certain portion of it and he
9 asked whether or not this was accurate, and you
10 gave your responses. I'm going to ask you a
11 similar question, and I'm going to read a certain
12 portion to you.

13 "We believe the products we make are not
14 injurious to health."

15 Now, was that an accurate statement?
16 "Yes" or "No"?

17 A In terms of scientific content.

18 Q Was that an accurate statement?

19 Well, sir, this is going out to people
20 not necessarily in the scientific community, but
21 there's evidence in this case that it is being
22 printed.

23 MR. KACZINSKI: Objection, your
24 Honor.

25 THE COURT: Counsel, what's your
5973

1 Dr. Ludmerer-Cross-Mr. Finz
2 question?

3 MR. FINZ: The question is -- okay.

4 Q Is that an accurate statement within the
5 generally accepted scientific community at that
6 time?

7 A Yes, it is. The answer is yes.

8 Q Now, right on top of that it says:

9 "We accept an interest in people's
10 health as a basic responsibility paramount to
11 every other consideration in our business."

12 Now, in your review of articles, did you
13 read anything in the articles that you read that
14 addressed that particular statement that was just
15 read?

16 "Yes" or "No"?

17 A I believe I did.

18 Q And what article did you read? I take
19 it it's a scientific article?

20 A Correct.

21 Q And what scientific article did you
22 read, sir, that addressed, "We accept an interest
23 in people's health as a basic responsibility
24 paramount to every other consideration in our
25 business". What scientific article?

5974

1 Dr. Ludmerer-Cross-Mr. Finz

2 A One article would be the article by
3 Cross on Epithelial Changes in Lungs in Response
4 to Cigarette Smoke.

5 Q What year was that? Was that after
6 1954?
7 A I believe it was.
8 MR. FINZ: Well, in that case, I ask
9 that that be stricken, your Honor, if
10 it's after 1954.
11 THE COURT: We are talking about at
12 or about.
13 MR. FINZ: Exactly. Thank you,
14 Judge.
15 THE WITNESS: Sir, I didn't quite
16 hear your comment.
17 THE COURT: It wasn't a comment.
18 The question that is being asked is
19 before this statement was written.
20 Go ahead, at or before.
21 Q At or before this statement was written,
22 was there any generally accepted scientific
23 knowledge within the scientific community that
24 supported that statement within the generally
25 accepted scientific community at or before

5975

1 Dr. Ludmerer-Cross-Mr. Finz
2 January 4th of 1954?
3 A That accepted the first sentence in the
4 statement?
5 Q It's the one that I just read, sir.
6 A Which one?
7 Q "We accept an interest in people's
8 health as a basic responsibility paramount to
9 every other consideration in our business".
10 A I don't think that question allows a
11 "Yes" or "No" answer the way it's framed.
12 Q You cannot answer that question?
13 A Not in a "Yes" or "No" fashion the way
14 it's framed.
15 Q Thank you.
16 Now, sir. In your review of the
17 literature in 1988 and 1989, did you review any
18 literature published whatever that literature
19 might have been by either TIRC, the Tobacco
20 Industry Research Committee; or its successor
21 organization, the Council for Tobacco Research?
22 A In 1988, sir, did you say?
23 Q 1988 or 1989 when you did your review.
24 A Well, there were a number of articles
25 that were sponsored by those organizations.

5976

1 Dr. Ludmerer-Cross-Mr. Finz
2 Q Did you read them?
3 A Yes, I did.
4 Q Were they press releases?
5 A I read scientific articles funded that
6 received financial support.
7 Q Did you read any press releases from an
8 organization for example known as Hill and
9 Knowlton?
10 A No, sir, I did not read press releases.
11 Q Did any of the lawyers who actually
12 retained you in that case back in '88 or '89 ask
13 you to review any of the press releases of Hill
14 and Knowlton? Were you asked to do that?
15 A No, not really.

16 Q Okay. Is it no, not really; or no?
17 A No. It's a different assignment. A
18 different set of --
19 Q So your answer to that question is "No"?
20 A No.
21 Q Now, you did testify in Oregon in March
22 of last year, did you not?
23 A Correct.
24 Q On behalf of the tobacco -- one of the
25 tobacco defendants or perhaps all of them; am I

5977

1 Dr. Ludmerer-Cross-Mr. Finz
2 correct?
3 A I don't know who the defendant was, but
4 I did testify in that case.
5 Q Okay. Now, at that time, you were asked
6 questions as to whether or not you had reviewed
7 any documents of Hill and Knowlton. Do you recall
8 a series of questions to that effect?
9 A I do not remember that question.
10 Q Let's assume, sir, that you were asked
11 similar questions about Hill and Knowlton, and
12 your response generally was you did not review any
13 Hill and Knowlton documents. Does that refresh
14 your recollection now?
15 A Yes.

16 MR. RANGLES: Objection, your Honor.
17 THE COURT: I will allow it.

18 Q Does that refresh your memory now, sir?
19 A I believe so.
20 Q That you did not review any Hill and
21 Knowlton documents; is that correct?
22 A The answer is I have not reviewed Hill
23 and Knowlton documents.
24 Q Now, as a historian and one who is
25 interested in historical development, having heard

5978

1 Dr. Ludmerer-Cross-Mr. Finz
2 about Hill and Knowlton, I think you said for the
3 first time then, did it peek your curiosity in
4 March of 1999 as to who Hill and Knowlton were
5 from a historical point of view?

6 "Yes" or "No"?
7 A Not really.
8 Q You had no concern as to who they were,
9 what role they played if any from a historical
10 point of view? Is that your answer?

11 A You're --
12 Q Is that your answer, sir?
13 A It doesn't allow a "Yes" or "No" answer
14 the way you're framing the question, sir.

15 Q Well, let me frame it in a way that
16 does.
17 Did you review any document of Hill and
18 Knowlton following your testimony in March of
19 1999?

20 "Yes" or "No"?
21 A I have not reviewed Hill and Knowlton
22 documents at any time.

23 Q To this day you've never reviewed any
24 Hill and Knowlton documents; is that correct?

25 A That's correct.

5979

1 Dr. Ludmerer-Cross-Mr. Finz
2 Q So historically you have found no
3 significance in reviewing Hill and Knowlton
4 documents so far as any issue in tobacco and
5 health issues are concerned; right?
6 A From my particular chapter?
7 Q Or for whatever reason it might be.
8 Your answer is "No"; correct?
9 A Correct.
10 Q Now, have you read the surgeon general's
11 report in 1964 in its entirety?
12 A Yes, I have.
13 Q You know it contains almost 400 pages?
14 A It's a lengthy publication.
15 Q About 386, 400 pages, a lengthy
16 document.
17 Have you also read that portion of the
18 surgeon general's report that deals with the
19 criteria concerning causation?
20 A Yes, I have.
21 Q Do you remember the five, or would it
22 help refresh your memory if we flash it on the
23 screen?
24 A I'm fine the way we are, but if you
25 would like to have it please feel free to do so.

5980

1 Dr. Ludmerer-Cross-Mr. Finz
2 Q Okay, let's put it on the screen.
3 Now, the surgeon general and his
4 committee of ten researchers and ten scientists
5 indicated five criteria, one of which was the
6 consistency of association; right?
7 A That's correct.
8 Q The second was the strength of the
9 association, how strong it was; correct?
10 A Correct.
11 Q What level it rises to.
12 A The third was the specificity of the
13 association. Was it specific or was it in some
14 way peripheral, or was it direct. That's what it
15 means, the temporal relationship.
16 Q The association, meaning was it a time
17 period that made some time period epidemiological
18 science; correct?
19 A Yes.
20 Q And the fifth was the coherence of the
21 association or the dose response; is that correct?
22 A It would be more accurate, sir, to say
23 that the general biological evidence for it
24 doesn't mean biological sense as well.
25 Q So you disagree with what I just said?

5981

1 Dr. Ludmerer-Cross-Mr. Finz
2 A This was coherence.
3 Q Okay, let's see what the surgeon general
4 said about it.
5 Reading from the surgeon general's
6 report on page 187, and this addresses point 5,
7 the dose response relationship.
8 "If cigarette smoking is an important
9 factor in lung cancer, then the risk should be
10 related to the amount smoked".
11 THE COURT: Why don't you increase

12 what you're reading?
13 MR. FINZ: I'll start again.
14 THE COURT: Can we increase that
15 right there?
16 MR. LONDON: Yes, I could.
17 THE COURT: Well, why don't you do
18 that?
19 MR. FINZ: May I proceed, your
20 Honor?
21 THE COURT: Yes, why don't you
22 increase the size?
23 Q Let's read it again.
24 It says: "Dose response relationship.
25 If cigarette smoking is an important factor in
5982

1 Dr. Ludmerer-Cross-Mr. Finz
2 lung cancer, then the risk should be related to
3 the amount smoked, amount inhaled, duration of
4 smoking, age when started smoking, discontinuance
5 of smoking, time since discontinuance, and amount
6 smoked prior to discontinuance. Herein lies the
7 greatest coherence with the known facts of
8 disease."
9 Now, was that, the language of the
10 surgeon general coherence?
11 "Yes" or "No"? Was it sir? Was it sir?
12 A I'm not sure I understand the question.
13 He certainly used the term coherence in his
14 statement, and the statement you're reading is
15 quite correct.
16 Q So did the surgeon general indicate
17 "Herein lies the greatest coherence with the known
18 fact of the disease"? Did I read that correctly?
19 A Yes.
20 Q Fine, thank you.
21 You're aware, are you not, sir, that
22 following the review of thousands of articles by
23 the surgeon general and his committee; following
24 the review of animal data, experimental laboratory
25 data, population studies, epithelial studies, and
5983

1 Dr. Ludmerer-Cross-Mr. Finz
2 lung tissue studies, that the surgeon general
3 concluded that cigarette smoking causes lung
4 cancer, and that conclusion was in 1964; right?
5 A Yes.
6 Q And I think previously you said that you
7 agreed that 60 -- in 1964, cigarette smoking,
8 everyone knew within the generally accepted
9 scientific community that cigarette smoking caused
10 lung cancer; right?
11 A The aftermath of that report as you
12 described, the surgeon general put it together.
13 Q Sir, in 1964, was it knowledge within
14 the generally accepted scientific community that
15 cigarette smoking caused lung cancer?
16 A That was the general view after.
17 Q And that's your view too; right?
18 A Yes, it is.
19 MR. FINZ: I have nothing further
20 Judge. Thank you.
21 Thank you, Dr. Ludmerer.
22 THE WITNESS: Thank you.

23 MR. RANGLES: Good afternoon,
24 counsel.
25

5984

1 Dr. Ludmerer-Redirect-Mr. Randles
2 REDIRECT EXAMINATION
3 BY MR. RANGLES:
4 Q Dr. Ludmerer, Mr. Finz asked you a
5 number of questions about context. Do you recall
6 that?
7 A Yes.
8 Q And what did you do in your research to
9 make sure that you understood the context of the
10 scientific and medical community during the time
11 period you studied?
12 A Well, that was actually the first thing
13 that I did. And if I may remind the jury of the
14 five criteria, the five rules that historians
15 follow, I listen to context first, and that was
16 the -- actually the first thing that I did in this
17 study.
18 Q You can speak up a little bit.
19 A That was the first thing I did.
20 Before going to the original articles I
21 put together a bibliography of several books and
22 articles written about the tobacco controversy and
23 related subjects written by others. So I read
24 about what previous authors wrote about the
25 history of the tobacco controversy.

5985

1 Dr. Ludmerer-Redirect-Mr. Randles
2 THE COURT: I have a question.
3 THE WITNESS: About?
4 THE COURT: Where do you come up, or
5 where is it appropriate to refer to this
6 as a controversy?
7 THE WITNESS: It's appropriate in my
8 view, your Honor, because if you look at
9 the period 1950 to 1964 there was
10 extraordinary disagreement in the
11 medical community as to the validity of
12 the statistical evidence.
13 Those who accepted the new
14 statistical indirect approach were of
15 the view that cigarette smoking caused
16 lung cancer; but those who came from
17 this 500-year tradition that you needed
18 specific direct experimental evidence
19 who felt that statistical associations
20 were not proof of cause and effect, those
21 individuals --
22 THE COURT: And you're comfortable
23 with that phraseology, "cigarette
24 controversy"?
25 THE WITNESS: Yes, I am because

5986

1 Dr. Ludmerer-Redirect-Mr. Randles
2 there was widespread disagreement as to
3 this word "comprehensiveness". It is
4 important. So I looked at world
5 literature.
6 The fact is you have some scientists
7 who felt that cigarette smoking caused

8 lung cancer. You had those who resisted
9 that idea.
10 THE COURT: Who resisted?
11 THE WITNESS: Who did not accept.
12 THE COURT: You see, I have a
13 problem. In other words, let me see if
14 I understand.
15 You relate the word "controversy" in
16 the general acceptance.
17 THE WITNESS: Maybe I could try
18 another word. A large portion of the
19 scientific community did not accept a
20 causal relationship between cigarette
21 smoking and lung cancer in the '50s and
22 the 1960s. Many people did; and year by
23 year the situations changed, but many
24 people did not. And it's important to
25 note that some scientists did not accept

5987

1 Dr. Ludmerer-Redirect-Mr. Randles
2 that.
3 THE COURT: Why I'm questioning you
4 is because we talk about generally
5 accepted scientific -- and let me see if
6 I understand you.
7 What you're suggesting to me is like
8 anesthesia, and like germs cause
9 disease, or much earlier, and like
10 Galileo, that whenever a -- or I don't
11 know whenever, but when certain
12 important scientific discoveries which
13 historians were later saying were -- let
14 me see. What word am I looking for -- a
15 striking new development, the fact is
16 that the rest of the scientific
17 community was not on board immediately,
18 and it took a certain period of time?
19 THE WITNESS: Yes, that's exactly
20 what I'm saying.
21 THE COURT: That becomes a theory or
22 a controversy?
23 THE WITNESS: Yes. Sometimes a
24 state of knowledge is that there is no
25 consensus. Sometimes the state of the

5988

1 Dr. Ludmerer-Redirect-Mr. Randles
2 knowledge is you don't know, and that's
3 exactly what I'm describing; that
4 particularly with many of the greatest
5 ideas in the history of science, it has
6 taken a period of time for the
7 scientific community to come aboard.
8 There was enormous resistance with
9 Galileo and the idea of the earth
10 revolving around the sun; enormous
11 resistance.
12 It took 50 years for the medical
13 community to say E. William Harvey was
14 right, that blood circulated and the
15 heart was the center of it.
16 It took 20 years for surgeons to
17 accept the concept that washing the
18 hands and germ-free surgery was a

19 necessary procedure.
20 Thirty years to accept anesthesia,
21 and this is something that historians of
22 medicine and science study, graduate
23 training and teaching; and one of them
24 can talk about the scientific
25 revolution.

5989

1 Dr. Ludmerer-Redirect-Mr. Randles
2 These are revolutionary ideas. He
3 makes the point that ideas don't
4 immediately change in the publication of
5 a newspaper even though a century later
6 that paper may be very important.

7 THE COURT: And maybe studied by
8 historians because of the new science
9 involved.

10 THE WITNESS: Right.

11 THE COURT: What I am trying to get
12 a framework for, and this is where I
13 think, or at least I'm having a problem
14 is; in law, we don't necessarily believe
15 that every last voice of dissent need be
16 silenced on a particular issue. I think
17 I'm saying that correctly.

18 But at some point, the tide comes in
19 or the tide goes out, and although not
20 every particle of water is going in the
21 same direction, we still say the tide
22 has turned into general acceptance.

23 Am I using that analogy correctly?

24 Your testimony is, and if -- you're
25 saying you're not in complete agreement,

5990

1 Dr. Ludmerer-Redirect-Mr. Randles
2 but you're saying the tide turned into
3 general acceptance with the publication
4 and the digestion of that report?

5 THE WITNESS: Of the surgeon
6 general's report of 1964; yes, that is
7 exactly what I'm saying. That is the
8 fact that turned the tide.

9 THE COURT: That fact turned the
10 tide to general acceptance?

11 THE WITNESS: Yes, in the scientific
12 community which is what I said.

13 REDIRECT EXAMINATION

14 BY MR. RANGLES: (Cont'd)

15 Q Let's follow up on a couple of your
16 questions.

17 Was the term "controversy" used by
18 scientists during the research at the time in the
19 '50s?

20 A Yes. Yes, it was which is probably
21 perhaps one reason that as a historian, in my
22 testimony today I used the word "controversy".

23 They talked about it at the time as the
24 controversy over cigarettes, the controversy over
25 lung cancer. That term was a common one in the

5991

1 Dr. Ludmerer-Redirect-Mr. Randles
2 medical literature in the '50s and early '60s.

3 Q And in fact, in the surgeon general's

4 report of '64 is "controversy."?
5 A Yes, the surgeon general's report says
6 that is one of the great controversies of our
7 time, and he used that term; yes.
8 Q We are talking about context, and you
9 referred to looking at other people who have
10 written about this time period, and I want to ask
11 you this. Are there other authoritative
12 historians who have examined this period of time
13 regarding smoking and lung cancer?
14 A Yes, there are.
15 Q Have you reviewed their works?
16 A I did at the time. I haven't refreshed
17 myself on it now, but I did, and that was part of
18 my work.
19 My context work was not only that I look
20 at the history of cancer, what was written about
21 that. I looked at the history of public health --
22 you know. I was astonished to learned --
23 MR. FINZ: Excuse me, Judge.
24 Please. I'm going to ask that anything
25 following that --

5992

1 Dr. Ludmerer-Redirect-Mr. Randles
2 THE COURT: Go ahead, counsel. Next
3 question.
4 Q Doctor, when you look at the
5 authoritative historians who had examined that
6 time period, did any disagree with the conclusions
7 you --
8 MR. FINZ: Objection, Judge.
9 THE COURT: Sustained as to form.
10 Q Did you find the historians you examined
11 authoritative?
12 A Yes.
13 Q Are the conclusions that they write --
14 THE COURT: Let's get a name.
15 Q And provide us with the name.
16 A John Birnham published an article in The
17 Bulletin, The History of Medicine around the time
18 I was doing the work myself. Now, he didn't go
19 into --
20 MR. FINZ: Judge, I am going to
21 object to anything that Birnham went
22 into.
23 THE COURT: Let's talk about
24 Birnham. What year, '64?
25 THE WITNESS: He published an

5993

1 Dr. Ludmerer-Redirect-Mr. Randles
2 article, your Honor, around '89 plus or
3 minus a year.
4 THE COURT: Okay.
5 Q Do you find his work authoritative?
6 A Yes, I do. He's a distinguished
7 historian.
8 Q Is his work generally accepted in the
9 scientific community?
10 A Yes. He's very well regarded.
11 Q What did he conclude?
12 MR. FINZ: Objection.
13 THE COURT: Not what he concluded.
14 Well, does he conclude the same

15 thing as you?
16 THE WITNESS: Yes, he looked at
17 1964.
18 MR. FINZ: Excuse me, Judge. May I
19 object to this, and may we step up
20 please?
21 (Off-the-record discussion.)
22 THE COURT: All right, let's leave
23 it alone.
24 Q Let me ask you this general question
25 about context; your analysis of context.

5994

1 Dr. Ludmerer-Redirect-Mr. Randles
2 Did you find anything that contradicts
3 the opinions you've given here today?
4 A No, not none at all. It all reinforced
5 it and gave it greater meaning which is what I was
6 trying to say before.
7 For example, what I read about the
8 history of cancer research as part of my
9 background, I find that cancer is considered a
10 dead end field in medical research until the '50s
11 because the cause of cancer is considered unknown
12 and unknowable; that scientists --
13 THE COURT: We are drifting.
14 Q Okay, I'll follow -- I'd like to ask you
15 about the Frank Statement.
16 Mr. Finz asked you a number of questions
17 about the Frank Statement in context of it and who
18 wrote it, and I believe you were attempting to
19 answer why you didn't find that relevant to your
20 work and he cut you off. What did you want to say
21 about that?
22 MR. FINZ: I'm going to object to
23 that question; what he wanted to say
24 about it.
25 THE COURT: I will allow it.

5995

1 Dr. Ludmerer-Redirect-Mr. Randles
2 A Well, the point that I had in mind on
3 that particular question was how the historians
4 look at things.
5 If you are doing historical research,
6 one of your tests is to put borders around your
7 topic. On the other hand, you're answering the
8 world. So my topic was the scientific
9 understanding of lung cancer and its relation to
10 cigarette smoking, not company activity, company
11 behavior. That was really a different chapter.
12 So really the question that you asked
13 was, did it make scientific sense in the context
14 today, and I answered, yes. But my research
15 assignment, if you will, was to investigate
16 scientific ideas and not company knowledge or
17 company behavior. That's a different chapter.
18 Q How long a document is the Frank
19 Statement?
20 A One page.
21 Q How many articles have you testified you
22 read about smoking and lung cancer?
23 MR. FINZ: Objection, Judge.
24 Repetitious.
25 MR. RANGLES: It's going right to

1 Dr. Ludmerer-Redirect-Mr. Randles
2 the question, your Honor.
3 THE COURT: You can answer it.
4 A A total of 12 to 1,400.
5 Q Now, the Frank Statement didn't recite
6 all 1,200 or 1,400 of those articles, did it?
7 THE COURT: Sustained.
8 MR. RANGLES: I asked about what it
9 left out.
10 THE COURT: Counsel.
11 Q All right, let me ask you this.
12 THE COURT: We forgot leading.
13 Q How many of those articles did the Frank
14 Statement cite?
15 A If I recall, it didn't cite a single
16 article by name.
17 Q Did the Frank Statement -- let me back
18 up.
19 What is your opinion about the
20 statements about the state of science at the time
21 pertaining to the Frank Statement? Were they
22 accurate?
23 A Yes, they were.
24 MR. FINZ: Judge, when I stand up,
25 I'm making an objection, Judge, and he

5997

1 Dr. Ludmerer-Redirect-Mr. Randles
2 answers. I object.
3 THE COURT: Your objection is
4 sustained. Strike the answer. Let's go
5 on.
6 Q Do you have an opinion about the
7 accuracy of the statement in the Frank statement
8 concerning the generally accepted state of science
9 when it was published?
10 MR. FINZ: Your Honor --
11 THE COURT: I will allow it.
12 A Yes, I do.
13 Q What is your opinion?
14 A My opinion is that it was a very
15 accurate reflection of where things were as of
16 January 1954.
17 Q Now, Mr. Finz asked you some questions
18 about whether you had reviewed any press releases
19 or documents of Hill and Knowlton public relations
20 agency. Did you reviews those documents?
21 A No, I did not.
22 Q Why not?
23 A Basically for two reasons. It's a
24 separate subject in this large issue of cancer and
25 cigarette smoking. I wasn't studying public

5998

1 Dr. Ludmerer-Redirect-Mr. Randles
2 relations or company behavior, and it's out of my
3 area.
4 I'm a historian of medicine. I talk
5 about scientific ideas and their evolution over
6 time and how they change, but I'm not really a
7 historian who has dealt with some of these other
8 questions.
9 Q Do medical historians typically rely
10 upon press releases when doing their research?

11 MR. FINZ: Objection, Judge.
12 THE COURT: Press releases?
13 I will allow that. I think you will
14 have an opportunity.
15 Is that what you typically rely on?
16 THE WITNESS: No, sir.
17 Q When you performed this research, did
18 you apply methods similar to or dissimilar to
19 other historical research you have conducted?
20 A Very similar.
21 Q And my last question. Based upon your
22 review of the state of science at the time, the
23 literature and your expertise and training as a
24 medical historian, what were the reasons since the
25 1964 surgeon general's committee was formed?

5999

1 Dr. Ludmerer-Redirect-Mr. Randles
2 A Well, it was formed because the issue of
3 the relationship with cigarette smoking and lung
4 cancer had not been resolved in the scientific
5 community. It was still controversial with
6 legitimate reputable learned scientists on both
7 sides.
8 Sometimes in history you have to use
9 some common sense, and just the fact that the
10 surgeon general's committee felt the need to have
11 this commission review all the evidence and get
12 together and take a look at it, it shows you that
13 it hasn't been worked out.

14 RECROSS EXAMINATION

15 BY MR. FINZ:

16 Q Did you ever testify, doctor, that one
17 of the reasons the President of the United States
18 summoned this committee together was because the
19 tobacco people were the only ones that brought out
20 that controversy?

21 MR. KACZINSKI: Objection, your
22 Honor. Argumentative.

23 THE COURT: That's argumentative,
24 but there is a question that is related
25 that you can ask.

6000

1 Dr. Ludmerer-Recross-Mr. Finz
2 MR. FINZ: Okay.
3 THE COURT: About the source of the
4 controversy.

5 Q Wasn't the source of the controversy
6 created by the tobacco industry?
7 "Yes" or "No"?

8 A No.

9 THE WITNESS: May I expand or --
10 THE COURT: Yes, please do.

11 First of all, did you research that
12 issue?

13 THE WITNESS: I researched in the
14 sense that I know who was writing for
15 and against it, your Honor, and what I
16 found.

17 THE COURT: Hold on. How does that
18 relate to answering his question?

19 THE WITNESS: When some of the most
20 imminent scientists of the nation,
21 including the leaders of National Cancer

22 Institute, many pathology and toxicology
23 departments of the leading medical
24 schools, some of the leading
25 statisticians of the world, the

6001

1 Dr. Ludmerer-Recross-Mr. Finz
2 scientific director of the American
3 Cancer Society, and Memorial Sloan
4 Kettering; when you have individuals of
5 this reputation and quality who do not
6 believe in the 1960s that cigarette
7 smoking causes lung cancer, I find it
8 very difficulty to believe that this was
9 something contrived by the tobacco
10 industry.

11 THE COURT: Now, that wasn't his
12 question. Did you research it?

13 THE WITNESS: I do know that.

14 THE COURT: No, no. You've got to
15 answer the question.

16 THE WITNESS: Maybe I don't quite
17 understand the question.

18 THE COURT: Am I incorrect.

19 Is that what you were looking for?

20 MR. FINZ: Exactly, Judge.

21 THE COURT: Take any one of those
22 people. Did you research that person or
23 person's links?

24 THE WITNESS: No, sir, I did not.

25 THE COURT: That is his question.

6002

1 Dr. Ludmerer-Recross-Mr. Finz

2 THE WITNESS: I understand the
3 question. I did not; no.

4 Just to make certain, your Honor,
5 that I understand the question, if I
6 went to for example to Dr. Heller,
7 Director of National --

8 MR. FINZ: Judge, may we --

9 THE WITNESS: Did he have
10 correspondence with the Tobacco
11 Industry, that the type of thing?

12 THE COURT: Yes. Did he have
13 correspondence? Did he have links? Did
14 he have research grants?

15 I don't know what impels anybody to
16 do anything; but that was his question.

17 THE WITNESS: I did not do that.

18 MR. FINZ: Thank you very much.

19 Now, sir -- may we have 838 please?

20 THE COURT: Why are you giving this
21 to me?

22 MR. FINZ: Because before it come up
23 I just wanted you to see it.

24 MR. RANGLES: Your Honor, this is
25 well beyond the scope.

6003

1 Dr. Ludmerer-Recross-Mr. Finz

2 THE COURT: Absolutely not.

3 MR. RANGLES: Your Honor, you're
4 opening the door that you closed for me
5 on direct and I'm going to go through
6 it.

7 THE COURT: Well, then be my guest.
8 I'm not -- what's good for the goose is
9 definitely good for the gander.
10 It may not have been appropriate on
11 direct, but that's why we have
12 rehabilitation.
13 MR. FINZ: May we flash it just for
14 Court and counsel please?
15 MR. QUIGLEY: Could we have the date
16 of this document, your Honor?
17 MR. FINZ: November 23, 1964.
18 MR. QUIGLEY: November 23, 1964. I
19 would object because it's well beyond
20 the scope of his testimony.
21 THE COURT: Go ahead.
22 RE-CROSS-EXAMINATION
23 BY MR. FINZ: (Cont'd)
24 Q Is that on your screen, doctor?
25 A It is. I'm having a little difficulty.

6004

1 Dr. Ludmerer-Recross-Mr. Finz
2 THE COURT: Why don't you bring it
3 up so that -- somebody want to do
4 something?
5 MR. FINZ: I was waiting until it
6 was up. I would offer this in evidence.
7 THE COURT: I'm not taking it in
8 evidence yet. Why don't you ask a --
9 MR. LONDON: It is in evidence, your
10 Honor.
11 THE COURT: Ask him a question.
12 Q Sir -- are you aware sir, that in the
13 fall of 1962, a certain Dr. Horsfall and other
14 Sloan Kettering physicians including public
15 relations Vice President Carl Cameron began
16 subjecting Wynder to more rigorous screening
17 procedure before letting him speak in the name of
18 the institute? Are you aware of that sir?
19 A I have not seen this document. I do
20 know that.
21 Q Are you aware of that, sir, just what I
22 asked?
23 THE COURT: Are you aware of the
24 document.
25 THE WITNESS: Of the document?

6005

1 Dr. Ludmerer-Recross-Mr. Finz
2 THE COURT: Yes.
3 THE WITNESS: No, sir.
4 Q Are you aware of what I've just stated,
5 because it goes back to 1962, and you said you
6 reviewed articles up until 1964.
7 A Could you --
8 MR. QUIGLEY: Object to the form.
9 THE COURT: This is not a medical
10 article.
11 MR. FINZ: All right.
12 Q Now, are you aware, sir -- do you know a
13 Dr. Horsfall?
14 A Yes.
15 Q He was the director of Sloan Kettering
16 at the time; is that correct?
17 A That's correct.

18 Q Okay. Are you aware of the fact, sir,
19 that Dr. Horsfall, the director of Sloan Kettering
20 had publicly expressed his doubt that smoking is
21 implicated in carcinoma causation, and that
22 Dr. Horsfall's opinion coupled with his
23 demonstrated liking for Marlboro cigarettes had
24 been beneficial, and as head of the National
25 Cancer Research Organization, that he had had

6006

1 Dr. Ludmerer-Recross-Mr. Finz
2 tremendous influence? Were you aware of that,
3 sir?

4 A I was aware of all the clauses in your
5 question; yes.

6 Q And were you aware further, sir, that in
7 the fall of 1962, Dr. Horsfall and other Sloan
8 Kettering physicians including public relations
9 Vice-President Carl Cameron began subjecting
10 Wynder who we have heard much about to rigorous
11 screening procedures before letting him speak in
12 the name of the institute?

13 A I heard that before.

14 Q Now, what institute are they referring
15 to with respect to Dr. Wynder?

16 A (No verbal response.)

17 Q Are you aware of that, sir?

18 A It appears to be in terms of your first
19 question, the Memorial Sloan Kettering Cancer
20 Institute.

21 And, yes, I have heard that situation
22 described before; not from this letter, but I have
23 read about that.

24 Q Well, would it surprise you if it was
25 from some other institute like the National Cancer

6007

1 Dr. Ludmerer-Recross-Mr. Finz
2 Institute? Would it surprise you if it was that?

3 A I'm sorry. I don't understand.

4 THE COURT: I don't understand you
5 either.

6 Q Would it surprise you as to whether or
7 not Wynder came from some other institute other
8 than Sloan Kettering; if you know?

9 A I know he was at Sloan Kettering. I
10 know others there disagreed with him. That's why
11 it's significant. Wynders was at Sloan Kettering
12 and the director did not agree with the thesis
13 that cigarette smoking caused lung cancer, and
14 they gave him a hard time; and I did know that.

15 Q Let me read it again.

16 Were you aware that the fall of 1962
17 Dr. Horsfall and other Sloan Kettering physicians
18 including public relations Vice President
19 Carl Cameron began subjecting Wynder to more
20 rigorous screening procedure before letting him
21 speak in the name of the institute, and that this
22 has had a proper and pleasing effect?

23 Were you aware of that sir? "Yes" or
24 "No"?

25 A Your question doesn't allow an answer

6008

1 Dr. Ludmerer-Recross-Mr. Finz
2 "Yes" or "No".

3 Q Are you also aware, sir, that
4 contributions of \$25,000 from each of the tobacco
5 defendants were being made to Sloan Kettering?
6 Are you aware of that, sir?
7 A That's what this memo says.
8 Q Let me read it.
9 "A contribution committee recommended on
10 November 8th of 1962 that the company contribute
11 \$25,000 annually for a period of three years
12 beginning in 1963, and subject to a review in
13 succeeding years on February 19, 1963, we
14 contributed 25,000 and gave another gift of 25,000
15 on February 24th of 1964".
16 Are you aware of that from your
17 research?
18 A Yes and no.
19 Yes in the sense that I was aware that
20 the tobacco industry was funding research widely,
21 including some studies that had contradictory
22 evidence.
23 Q So you're aware of it?
24 A But I did not know about this specific
25 grant at that time.

6009

1 Dr. Ludmerer-Recross-Mr. Finz
2 THE COURT: Contradictory to what?
3 THE WITNESS: The tobacco industry
4 funded many studies that were published
5 that came out with evidence tightening
6 the link between cigarette smoking and
7 cancer. So it was on both sides.
8 The publish papers had results that
9 were embarrassing if you will to the
10 tobacco industry. From that standpoint
11 they had evidence that tightened the
12 link.
13 Q Now -- okay, so you're saying they
14 contributed to various institutions; right?
15 A Yes.
16 Q Are you aware also that by giving
17 \$25,000, that is, each of the defendants and some
18 gave more than that, the deductible contribution
19 to Sloan Kettering is probably the most effective
20 of all health research contributions? Are you
21 aware of that sir?
22 A I had not known of that.
23 MR. FINZ: May we flash this on the
24 screen, your Honor?
25 THE COURT: Let's go on.

6010

1 Dr. Ludmerer-Recross-Mr. Finz
2 MR. FINZ: Okay.
3 THE COURT: Could I see that for a
4 moment?
5 MR. FINZ: Yes, Judge. The bottom
6 line, Judge.
7 THE COURT: No, no. I'm looking at
8 the top line.
9 Q Now, coming back to the Frank Statement,
10 sir. You were asked at length on the Frank
11 Statement in the Oregon trial; were you not?
12 A I believe so. I don't remember.
13 THE COURT: Counsel.

14 Q Now, having been questioned on the Frank
15 Statement in the Oregon trial, did you then as
16 someone who was interested in history, make any
17 attempt from 19 -- from March of 1999 to the
18 present time to determine what the genesis or the
19 start of that Frank Statement was? Did you ever
20 do that, sir?

21 A I didn't. I was finishing my new book.

22 Q Sir, we're all very busy. What we do --

23 A I didn't.

24 Q Your answer is, no, you did not?

25 A That's correct.

6011

1 Dr. Ludmerer-Recross-Mr. Finz

2 Q Now, is it not important historically to
3 find out why it is that somebody says what is
4 said? Isn't that important?

5 The question, is, is that not important?

6 A Well --

7 Q Is that important?

8 A Your question is not allowing a "Yes" or
9 "No". There are assumptions that misrepresent.

10 Q I know, doctor.

11 A I would love to explain, to give you an
12 answer.

13 Q Dr. Ludmerer, is it important to
14 investigate why it was that they came out, that
15 the tobacco defendants came out with the Frank
16 Statement on January 4th of 1954? Was that
17 important historically?

18 "Yes" or "No"?

19 A Your question --

20 Q You can't answer that?

21 A Not the way you're phrasing the
22 question. You're not permitting me to.

23 Q I'm going to ask you if you -- follow
24 this for a moment if you can.

25 Now, his Honor asked you before about

6012

1 Dr. Ludmerer-Recross-Mr. Finz

2 Galileo; correct?

3 A Yes.

4 Q And there are certain principles that we
5 can accept without being scientists; isn't that
6 right.

7 Water is wet?

8 A Sure.

9 Q Air could be cold. Air could be cool.

10 A Sure.

11 Q Certain thing we accept?

12 A Sure.

13 Q We accept that this is a rail. We don't
14 have to be carpenters to know that.

15 A Right.

16 Q We accept that this is a flag. We don't
17 have to be Dolly Madison to know that that's a
18 flag.

19 THE COURT: Or Betsy Ross.

20 MR. FINZ: That's very good, Judge.

21 Q We don't have to be, sir, Isaac
22 Newton -- sir, do you know who Isaac Newton was?

23 THE COURT: Yes, he does. Come on.

24 Q Remember, sir, Isaac Newton. We started

25 off with the apple on the tree; remember?
6013
1 Dr. Ludmerer-Recross-Mr. Finz
2 A Yes.
3 Q Now, if the apple falls off the tree --
4 okay. Now, when the apple falls off the branch
5 and is on its way, does it go up? Does it go to
6 the side? Or does it fall to the ground?
7 A Is that the question you're asking?
8 Q Yes.
9 A It falls to the ground.
10 Q It falls to the ground.
11 Do we have to be scientists to know that
12 A plus B will always equal C?
13 Right?
14 A You don't have to know Newton's law to
15 know an apple --
16 Q Exactly; and we don't have to know the
17 law of gravity to know.
18 We can have a four-year-old who never
19 heard of gravity to know that if A, the apple; B,
20 falling off the tree falls to the ground, that C,
21 it will always happen that way, and that's known
22 to a four-year-old; isn't that correct?
23 Right?
24 A Correct.
25 MR. FINZ: I have nothing further.

6014

1 Dr. Ludmerer-Recross-Mr. Finz
2 That's causation; right?
3 THE WITNESS: If you say so.
4 (S. Karlin relieved D. Dorsey and
5 recorded the proceedings.)
6 * * *

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6015

1 Dr. Ludmerer-redirect/Candles
2 REDIRECT EXAMINATION
3 BY: CANDLES:
4 Q If that apple fell off the tree and
5 decomposed, got into the water supply and then
6 someone downstream got sick from the contaminated
7 water, would we be talking about a chronic disease?
8 A Probably not.
9 Q I want to talk about some of he science

10 questions, just a few, because Mr. Finz had some
11 questions about the influence of the tobacco
12 industry.

13 The first question I want to ask you
14 about was who was Memorial Sloan-Kettering?

15 A Memorial Sloan-Kettering was the leading,
16 the leading -- right here in New York City -- you
17 are probably familiar with this group -- the leading
18 cancer research institute in the world.

19 Q Has anyone in the scientific community ever
20 impuned the integrity of Memorial Sloan-Kettering ?

21 A I have never heard the integrity of
22 Memorial Sloan-Kettering impuned.

23 Q Let me ask you about Doctor Wynder himself.
24 Did Doctor Wynder ever publish his personal views
25 about whether the research he conducted proved

SK

6016

1 Dr. Ludmerer-redirect/Candles
2 smoking caused lung cancer?

3 A Yes, sir, he did which is how I knew of
4 that episode even though I had never seen that
5 document before.

6 Q Did he indicate his own reservation about
7 the limits of that research in his published
8 literature?

9 A Yes, he did.

10 Q Did Doctor Graham who was his
11 co-investigator publish on that subject?

12 A Yes, he did.

13 Q Did he publish his doubts about whether
14 their research had proven that smoking caused lung
15 cancer?

16 A They did express those doubts, especially
17 in the 1953, 1954, 1955 period. They said we have
18 evidence, or are worried, let's look into this
19 further. But they said statistical associations do
20 not prove cause and effect. Skin painting on
21 animals is not the same as inhalations in human
22 beings.

23 They stated that their evidence did
24 not prove the case.

25 Q I want to mention a few scientists that

SK

6017

1 Dr. Ludmerer-redirect/Candles
2 the jury may have heard about.

3 Who is Sir Ronald Fisher?

4 A Sir Ronald Fisher is a British, a bright
5 British biologist, the greatest theoretical
6 biologist perhaps in the history of the world. He
7 took a very mathematical, theoretical approach to
8 biology. He showed through very sophisticated
9 mathematical techniques that the theoretical
10 evolution and the theory of genetics is one and the
11 same, called the evolution symphysis. It's one of
12 the greatest contributions to biology in the 20th
13 century. And that was his book.

14 THE COURT: Can we step up, please?

15 (Whereupon, there was an off-the-record
16 discussion at the bench.)

17 THE COURT: I'll allow it.

18 Q How is he regarded in the scientific

19 community?
20 A He was regarded extraordinarily high. In
21 my opinion he was by far the most distinguished
22 scientific figure involved in this whole discussion
23 of lung cancer and cigarettes. He was like the
24 Einstein of biology, the Michael Jordan of
25 basketball. He was that great. He was the most
SK

6018

1 Dr. Ludmerer-redirect/Candles
2 eminent scientist of all who participated in these
3 conversations and who wrote about this subject.
4 Q Did he write on the subject in the '50s and
5 '60s?
6 A Yes.
7 Q Did he express any reservation about
8 whether it had been proven?
9 A Yes. He felt that it had not been proven.
10 Q Just a couple of other names.
11 THE COURT: What date was that?
12 THE WITNESS: Through 1962, your Honor.
13 He felt it had not been proven.
14 THE COURT: Until 1962?
15 THE WITNESS: And he died in 1962 or
16 1963, but through his death, yes, sir.
17 Q Let me ask you about Doctor John Talbot, the
18 editor and chief of the Journal of the American
19 Medical Association.
20 Are you familiar with him?
21 A Yes, I am.
22 Q Did he express his views in JAMA about
23 whether it had been proven?
24 A Yes, he did in 1959, if I recall.
25 Q And was it considered an authoritative
SK

6019

1 Dr. Ludmerer-redirect/Candles
2 article in the field?
3 A Yes, it was.
4 Q What in substance was his view?
5 THE COURT: How does that become
6 authoritative? That wasn't based on peer
7 research, if I understand correctly.
8 THE WITNESS: He wrote an editorial.
9 THE COURT: He asked you if that was
10 authoritative. He was authoritative, I
11 assume. Why was his opinion authoritative
12 unless based on research?
13 THE WITNESS: That's the point, your
14 Honor.
15 THE COURT: Then I need an explanation.
16 THE WITNESS: To say that you have to
17 do research to have an opinion on a subject
18 is totally false. That is a false
19 statement. This is what scientists do all
20 the time. They work in an area. It is
21 their job to evaluate the work of others.
22 THE COURT: Did he evaluate any of the
23 work or was that the nature of the article?
24 THE WITNESS: He reviewed the
25 literature. It was his opinion that the
SK

6020

1 Dr. Ludmerer-redirect/Candles
2 causal hypothesis had not been shown and it
3 is notable because that's what medical
4 editors do. It is their job to review and
5 critically evaluate the work of others.
6 That's what all scientists do.
7 In fact, that's what the Surgeon
8 General's commission did. They did not
9 produce original work themselves. They did
10 the largest systematic review of the world's
11 works but they didn't do anything new. And
12 to say that you have to publish in the field
13 to have a learned, informed opinion as to
14 whether that view is correct is a total
15 misstatement of what science is.
16 Q Just a couple more questions.
17 In 1961 did an article appear in the
18 New England Journal of Medicine which this jury has
19 heard about, entitle The Great Debate?
20 A Yes, it did.
21 Q Was it regarded as authoritative at the
22 time?
23 A Yes, it was.
24 Q And the subject of that article had to do
25 with smoking and lungs cancer; is that correct?
SK

6021

1 Dr. Ludmerer-redirect/Candles
2 A Yes, it was. The two sides of the pro and
3 con position were given. That was by Doctor Little
4 that the con position, that in his view, in
5 reviewing the evidence we could not conclude that
6 cigarette smoking caused lung cancer. There was a
7 pro by Doctor Wynder saying that in his opinion the
8 evidence allowed that conclusion.
9 So the two sides, pro and con, were
10 given right there in the New England Journal of
11 Medicine and the editor of the New England Journal
12 of Medicine wrote an editorial giving --
13 MR. FINZ: I object to this going far
14 beyond the question and far beyond the
15 redirect.
16 THE COURT: Counsel.
17 Q Based upon your analysis of the state of
18 science at the time the scientists were discussing
19 this issue, did the tobacco industry contact this
20 controversy?
21 MR. FINZ: Objection.
22 THE COURT: Sustained, unless you are
23 telling me that you have done sufficient
24 research in the field of which as to what
25 underlying motives were. If you have done
SK

6022

1 Dr. Ludmerer-redirect/Candles
2 that I'll allow you to answer the question.
3 Q In 1954, the time of the Frank statement,
4 roughly how many scientists, what percentage of
5 scientists in the public literature rejected the
6 evidence as proving smoking caused disease?
7 MR. FINZ: I object to that, Judge.
8 We're going beyond the standard that you
9 have established.

10 THE COURT: I understand but we have
11 brought up this controversy, this purpose
12 and cause and the reason why the controversy
13 was created.
14 Go ahead.
15 THE WITNESS: I am sorry. I lost the
16 question.
17 THE COURT: How many scientists in the
18 public literature, let's say peer review
19 journals, what percentage of scientists
20 publishing in peer review journals in 1954
21 --
22 I am having a problem with your
23 question, counsel.
24 Come up, please.
25 (Whereupon, there was an off-the-record
SK

6023

1 Dr. Ludmerer-redirect/Candles
2 discussion at the bench.)
3 THE COURT: Try it again, please.
4 Q Of the scientists who published in peer
5 review journals in 1954 on this subject of smoking
6 and lung cancer, what percentage of those scientists
7 who were publishing in the field indicated their
8 disagreement that had been proven that smoking
9 caused lung cancer?
10 A The majority opinion at that time was that
11 it had not been proved that cigarette smoking caused
12 lung cancer. Many people said, that's what we want
13 to find out. But the majority opinion was that it
14 had not yet been proved.
15 Q Let's fast forward. Did the number that
16 was accepted, did it go up, say, by 1960?
17 A Yes, it did. No one took polls. But it
18 was estimated around 1960 by Surgeon General Burney
19 that roughly, in his opinion, there might have been
20 75 - 25, about 75 percent at that time accepting a
21 causal relationship; but 25 percent not.
22 THE COURT: That 75 in your opinion
23 does not constitute general acceptance?
24 THE WITNESS: No, sir, not when you
25 have people of the magnitude who did not --
SK

6024

1 Dr. Ludmerer-redirect/Candles
2 it is not a popularity contest.
3 THE COURT: Well then, the 75 is not
4 relevant in your opinion?
5 THE WITNESS: It might be more accurate
6 to say the majority accepted it, but
7 controversy does not mean 50-50 and a 60-40
8 does not mean that you have a consensus.
9 MR. FINZ: I object to this.
10 THE WITNESS: If you are looking in
11 1960, and this is what I said earlier, ideas
12 change over time. You will always have the
13 first people to accept a new revolutionary
14 idea and the people in the middle and the
15 people at the end, but by 1960 you are in
16 that broad middle.
17 I would guess a majority probably did.
18 But you have a large minority who did not

19 including one of the most eminent scientific
20 figures in the discussion.
21 Q How, if at all, did this change in 1964?
22 A It changes in 1964 because --
23 MR. FINZ: I object. We have been
24 through this already three times.
25 THE COURT: We've covered that already.
SK

6025

1 Dr. Ludmerer-redirect/Candles
2 Thank you.
3 RECROSS EXAMINATION
4 BY: MR. FINZ:
5 Q Sir, would you agree that lung cancer
6 causes cigarette smoking?
7 THE COURT: Today.
8 Q At any time?
9 MR. CANDLES: I object to the form.
10 THE COURT: I am lost.
11 Q Did anybody believe or ever publish that
12 lung cancer caused cigarette smoking?
13 MR. CANDLES: Objection, beyond the
14 scope, your Honor.
15 THE COURT: I'll allow the answer.
16 Anybody say that?
17 THE WITNESS: I have not heard it said
18 in that way.
19 Q Sir, isn't it a fact that a very famous
20 person, Ronald Fisher, in 1959, in an attempt to
21 assess the evidence, wrote as follows: "It is
22 possible then that lung cancer is one of the causes
23 of smoking cigarettes? I don't think it can be
24 excluded."
25 Wasn't that my question? Yes or no?
SK

6026

1 Dr. Ludmerer-redirect/Candles
2 A Well, he did say that and I would love to
3 explain.
4 Q So this very famous Sir Ronald Fisher did
5 say it's possible that lung cancer causes smoking
6 cigarettes, yes or no?
7 A I would love to be able to explain to you
8 what he meant by that.
9 Q Yes or no?
10 THE COURT: If he doesn't he will.
11 THE WITNESS: It does not allow a yes
12 or no explanation.
13 Q Do you want to look at the quote? Did he say
14 it?
15 MR. KACZYNSKI: Can we look at the
16 article?
17 THE COURT: Of course you will.
18 Q Did he say it, sir?
19 A Do you have the article?
20 Q I have the quote.
21 A I would have to see the article.
22 Q I don't have the article, I am sorry.
23 A More than once I have seen it. I have seen
24 a quotation taken out of context.
25 Q But you are familiar with what he said. Is
SK

6027

1 Dr. Ludmerer-redirect/Candles
2 it possible then that, "lung cancer is one of the
3 causes of smoking cigarettes? I don't think it can
4 be excluded."
5 Isn't that what he said, yes or no?
6 A That's what you are representing. I would
7 have to see the article.
8 Q As an officer of this Court that's what I
9 am representing.
10 A And there is a discussion as to what his
11 view is.
12 MR. FINZ: Thank you very much.
13 THE COURT: We will take a break,
14 please.
15 (Jury leaves courtroom.)
16 (A recess was taken.)
17 (Jury enters courtroom.)
18 THE COURT: We are going to have
19 another witness I am told.
20 MR. CANDLES: Doctor Edwin Bradley
21 DOCTOR EDWIN LUTHER BRADLEY, called as a witness,
22 having been first duly sworn, was examined and
23 testifies as follows:
24 THE CLERK: Give your name and
25 address, business address for the record.

SK

6028

1 Dr. Bradley-direct/Candles
2 THE WITNESS: Edwin Luther Bradley,
3 Jr. B-r-a-d-l-e-y.
4 THE CLERK: Business address?
5 THE WITNESS: 230-15 Kentucky Avenue,
6 Birmingham, Alabama.
7 DIRECT-EXAMINATION
8 BY MR. CANDLES:
9 Q Good afternoon, Doctor Bradley.
10 A Good afternoon.
11 Q I am going to stand back here and I would
12 like you to make sure you can hear and so that
13 everyone else can. Okay?
14 A All right.
15 Q You told the jury your name.
16 What is your occupation?
17 A I'm a statistician with the emphasis in
18 biostatistics.
19 Q Now, we're going to get back to that in
20 more detail in a minute, but would you tell us just
21 sort of briefly what does a biostatistician do?
22 A A biostatistician analyzes information that
23 is associated with biological or medical research
24 studies.
25 Q Can you give us an example?

SK

6029

1 Dr. Bradley-direct/Candles
2 A You might have an example of somebody
3 wanting to study a particular disease such as
4 cardiovascular disease and you might suspect
5 certain exposers or factors that would be related to
6 that disease. A biostatistician helps design a study
7 that would enroll a number of people into that
8 study, take the measurements of various factors and
9 analyze the data and interpret it.

10 Q Would the kind of study you design be known
11 as an epidemiological study?
12 A That would be one type of study, yes.
13 Q Now, starting with college, can you briefly
14 give us your educational background?
15 A I have a Bachelor's degree in mathematics
16 with honors from the University of Florida that I
17 received in 1964. I have a masters statistics
18 degree also from the University of Florida in 1967.
19 I received a Ph.D degree with emphasis in statistics
20 in 1969 from the University of Florida.
21 Q After you graduated with your Ph.D what did
22 you do next?
23 A I went to work at the University of
24 Alabama, Birmingham Medical Center.
25 Q In what capacity?

SK

6030

1 Dr. Bradley-direct/Candles
2 A I was an assistant professor in the
3 Department of Biostatistics and also I was an
4 investigator the Institute of Dental Research at the
5 university.
6 Q Now, did you stay at the university for a
7 number of years?
8 A Yes, for 28 years.
9 Q Sir, in summary what did you do at the
10 university?
11 A Approximately fifty percent of my time was
12 used in working with other medical researchers in
13 the university in designing, analyzing and
14 interpreting medical research studies, and during
15 that period of time with these studies I worked with
16 virtually every type of physician; dentist,
17 neurologist, cardiologist, cardiovascular physician,
18 surgeons, oncologists, neurologists at the
19 university. The list goes on and on.
20 That was about half of my time. A
21 quarter of the time I spent teaching students.
22 There are mainly two types of students in a graduate
23 program which are trained to get masters or
24 doctorate degrees to be trained as biostatisticians
25 and also take some students in other disciplines

SK

6031

1 Dr. Bradley-direct/Candles
2 such as medical students, epidemiology and other
3 public health students. And then also I spent about
4 a fourth of my time doing research in the area of
5 statistics and working with graduate students.
6 Q Did there come a time when you retired from
7 the university?
8 A Yes.
9 Q When was that?
10 A 1997.
11 Q What have you done since your retirement?
12 First of all, have you retained any title?
13 A A professor emeritus at the university.
14 Q What does that mean?
15 A That's a title given upon your retirement.
16 It's suggested by your chairman, the dean of your
17 school, and it's only awarded by the board of
18 trustees. So a limited number of these are given

19 out. It's based on your contribution to the
20 university and your research efforts and so on.
21 Q What else have you done in your retirement?
22 A I have a consulting firm which I have had
23 even while I was at the university. And I do that
24 full time now.
25 Q What you mean by that, consulting?
SK

6032

1 Dr. Bradley-direct/Candles
2 A I consult with the businesses and
3 attorneys in litigation support.
4 Q Have you been recognized by other courts as
5 expert in statistics, biostatistics?
6 A Yes, I have.
7 Q Have you testified in other tobacco cases?
8 A Yes, I have.
9 Q How many of those?
10 A Two.
11 Q Have you testified in other types of cases?
12 A Yes, I have.
13 Q About how many times in other kind of
14 cases, we don't necessarily need to get into what
15 kind they are, but about approximately how many
16 times have you testified in courts as an expert in
17 biostatistics?
18 A I testified in court probably about 25, 30
19 times.
20 Q Have you testified in peer review journals?
21 A Yes.
22 Q In what field, as a general matter, have
23 you published?
24 A I published in the area of statistical
25 fields and a lot of other joint publications in
SK

6033

1 Dr. Bradley-direct/Candles
2 medical journals that deal with the applications of
3 statistics and the results of statistics applied to
4 medical research studies.
5 Q During the time you taught at the
6 university to medical students as part of your --
7 A Yes, sometimes I do.
8 Q You teach graduate students as part of your
9 duties?
10 A That's correct.
11 Q What is the Biometric Society?
12 A That's a society that is devoted to the
13 application of statistical and other quantitative
14 methods of medical and biological fields.
15 Q As a biostatistician have you participated
16 in the design and conduct of epidemiological
17 research?
18 A Yes, I have.
19 Q And about how many epidemiological studies
20 have you participated in the design or
21 implementation of?
22 A That's hundreds.
23 Q Now, how is biostatistics used in
24 epidemiology?
25 A Well, epidemiology is the science of
SK

6034

1 Dr. Bradley-direct/Candles
2 disease, the study of disease, and epidemiologists
3 are interested in what causes disease or what might
4 be related to disease.
5 So an epidemiologist would be
6 interested possibly in a particular disease and what
7 exponents or factors might cause that disease, at
8 least related to them. The biostatistician is the
9 one that would sit down with the epidemiologist and
10 design a study based on who is enrolled in the
11 study, how many patients would be enrolled in the
12 study or other individuals, and then help them
13 designing the data collection or other instrument
14 that they would use to gather the data and then
15 would analyze that data.
16 That's what the biostatistician would
17 do. And the biostatistician would interpret the
18 results and explain to that epidemiologist what
19 results he could claim from that study.
20 Q Are you a peer reviewer for any
21 publication?
22 A Yes.
23 Q What publications are those?
24 A I have done the Journal of the American
25 Statistical Association, the American Statistician,
SK

6035

1 Dr. Bradley-direct/Candles
2 Annals of Neurologist, Anesthesiology.
3 Q Doctor Bradley, have you been asked to come
4 here and testify about Mr. Anderson's alleged
5 smoking of Phillip Morris and Lorillard brand
6 cigarettes and what the statistical literature
7 reveals about that period in relation of two brands,
8 Philip Morris and Lorillard brands and their
9 relation to the onset of lung cancer?
10 A Yes, sir, I have.
11 Q Now, I want to talk to you a little about
12 statistical methods in the most summary form.
13 You talked about earlier that
14 epidemiology, to paraphrase, looks at whether a
15 condition is associated with an exposure. Is that a
16 fair statement?
17 A Yes, disease or some condition associated
18 with an exposure, that is correct.
19 Q Have you prepared any exhibits that would
20 be useful to us today in understanding how exponents
21 and statistics interact?
22 A I believe I have, yes, sir.
23 MR. CANDLES: Can you bring that up for
24 Court and counsel, with your permission,
25 your Honor.

SK

6036

1 Dr. Bradley-direct/Candles
2 THE COURT: Yes.
3 Q Doctor Bradley, could you tell us what that
4 art work represents?
5 A This art work represents a hypothetical
6 situation where we're studying two groups trying to
7 determine whether a particular exposed group and
8 unexposed group, and using an increase in the risks
9 of getting the disease.

10 Q What do you mean by exposed group as
11 opposed to unexposed?
12 A The exposed group would be the group
13 exposed to the particular factor under
14 consideration. In this trial we're talking about
15 smoking cigarettes. So exposure would be to smoking
16 cigarettes. The unexposed group would not be exposed
17 to cigarette smoking.
18 So those would be the two groups and
19 there is hypothetical.
20 Q Now, at the bottom you have the line, "No
21 statistical association between exposure and
22 disease."
23 A That's correct.
24 Q How can we tell that?
25 A We can tell that from this particular table
SK

6037

1 Dr. Bradley-direct/Candles
2 in that this particular study we have a hundred
3 people that are in the exposure group and those that
4 represent all of the bodies, the little people in
5 the chart, and there are five red people there.
6 Those represent the people that have contracted the
7 disease.
8 So in this case five out of a hundred
9 or five percent of these individuals contracted the
10 disease in the exposure group. In the unexposure
11 group we also have a hundred people. And it's also
12 clear that five people there contracted the disease,
13 so there is five percent of those.
14 So we have five percent of the people
15 in the exposure group and five in the same unexposed
16 which does not cause an increase in the number of
17 disease.
18 Q Do we have another exhibit that illustrates
19 a different situation of exposure?
20 A Yes.
21 Q Now, this one at the bottom says, "No
22 statistical association between exposure and disease
23 again."
24 A Right.
25 Q Can you tell us how this differs from what
SK

6038

1 Dr. Bradley-direct/Candles
2 we just looked at?
3 A Well, there is a situation where we also
4 have the hundred people in the exposure group and
5 only five of the people contracting the disease. So
6 that's five percent. In the unexposure group now
7 among the other hundred people, ten contracting the
8 disease. So ten percent of the people contract the
9 disease. Since the rate of disease is higher than
10 the unexposure group, there can be no association
11 between exposure and disease.
12 Q Do we have one more different situation?
13 A Yes.
14 MR. CANDLES: Can we bring that up,
15 your Honor?
16 Q Now, at the bottom here you say,
17 "Statistical association between exposure and
18 disease."

19 How is this different?
20 A In this case we have the exposure group
21 which has the same hundred people.
22 THE COURT: Is everybody okay on this.
23 THE WITNESS: So in this case we have a
24 hundred in the exposed group also but in
25 this case 15 percent of the individuals came
SK

6039

1 Dr. Bradley-direct/Candles
2 out with disease.
3 So 15 people developed disease where
4 the unexposed group got five percent. So 15
5 percent is larger than five percent; there
6 is an association between exposure and
7 disease. We are not saying cause, we are
8 saying association.
9 Q Let's follow up on that.
10 What is the division between
11 statistical association and cause?
12 A Well, you can have statistical association
13 without having cause. But if you have causal
14 association, or another way of putting it is if you
15 have no association you can have no cause and
16 effect. So, for example, if we can establish there
17 is no association between exposure and a disease,
18 then there can not be any cause between that
19 exposure and that disease.
20 But, on the other hand, we can show
21 that there is even, if we show there is an
22 association between exposure and disease, that
23 doesn't mean that there is necessarily a cause of
24 the exposure to the disease.
25 Q What would scientists ask about statistical
SK

6040

1 Dr. Bradley-direct/Candles
2 association and cause?
3 A Well, the first thing you want to do is
4 find out the statistical association. That's the
5 door you have to pass through to move on to
6 causation. If you can not show statistical
7 association you have to stop. There is nothing else
8 to be done, there is no association, no use looking
9 further. But if there is association you have to go
10 further than that.
11 There is experimental, plausible and
12 other.
13 Q Can you tell us what the term dose response
14 means in scientific studies?
15 A Dose response means that the risk of
16 getting a disease would increase as the amount of
17 exposure increases. So the more you are exposed to
18 the higher level the higher the risk of disease.
19 Exposure is generally a require measured as
20 approximately two factors; one, the amount you are
21 exposed to, and, two, the duration of exposure.
22 That gives you then the dose the person sees. The
23 higher the dose there should be an increase in the
24 risk of disease.
25 Q Is the concept of dose response recognized
SK

6041

1 Dr. Bradley-direct/Candles
2 in scientific research concerning smoking and lung
3 cancer?
4 A Yes.
5 Q So in this context if we're looking at dose
6 response, that includes the notion of how long ago a
7 person smoked?
8 A That would be one component of how long
9 they smoked.
10 A And the amount they smoked.
11 MR. FINZ: Judge, just as to leading,
12 that's all.
13 THE COURT: This seems to be
14 preliminary.
15 Q And how long ago if they had stopped?
16 A Right. The length of time from the last
17 exposure.
18 Q Could you describe for us in a general way
19 the work you've done in this case to familiarize
20 yourself with Mr. Anderson's claimed smoking
21 history?
22 A The first thing I did is I read Mr.
23 Anderson's deposition because I want to determine
24 what his alleged level of smoking was from the two
25 brands in question. The second thing I did was I
SK

6042

1 Dr. Bradley-direct/Candles
2 looked at some literature on active smoking to see
3 if there were any literature with dose response and
4 of the type he encountered. And thirdly I evaluated
5 a group of people that had similar smoking histories
6 to Mr. Anderson from a large study conducted by the
7 American Cancer Society.
8 Q We'll break all those down in just a
9 moment.
10 First of all, did you prepare an
11 exhibit which would be helpful for you in discussing
12 Mr. Anderson's claimed smoking history?
13 A Yes.
14 MR. CANDLES: Let's put this up for
15 Court and counsel, please.
16 May we show that, your Honor?
17 THE COURT: Yes.
18 Q Now, could you tell us what you concluded
19 about his claimed smoking history from his
20 deposition?
21 A I concluded that he claims that he smoked
22 Parliaments roughly for about a year, a period of
23 1961 to 1962, that he smoked less than a pack per
24 day during that period of time and during the time
25 interval between the last time he smoked Parliaments
SK

6043

1 Dr. Bradley-direct/Candles
2 and his lung cancer was diagnosed was about 34
3 years.
4 Q How about Lorillard?
5 A Lorillard his claim was he smoked that for
6 about a year in between 1962 and 1963, also smoked
7 less than a pack per day, and so therefore the time
8 between his last Kent and his lung cancer diagnosis
9 was approximately 33 years.

10 Q And the amount of time interval, is that
11 corrected in terms of dose response?
12 A That is correct.
13 Q You mentioned a study you looked at
14 conducted by the American Cancer Society?
15 A Correct.
16 Q I want you to assume this jury has already
17 heard Doctor Feingold talk about that study named
18 CPS-11.
19 A That is correct.
20 Q I want to ask you about it in a little more
21 detail. Can you tell us what this study was?
22 A This study was started in 1981 where over a
23 million, about 1.2 million people were enrolled by
24 the American Cancer Society into what is called a
25 prospective follow-up study. So about 1.2 million
SK

6044

1 Dr. Bradley-direct/Candles
2 people enrolled and they were followed for a period
3 of six years to 1988.
4 Q Now, how is this study regarded in the
5 general scientific community?
6 A It's a well-conducted study.
7 Q Is this a large study compared to most
8 epidemiological studies?
9 A This is one of the largest studies, that is
10 correct.
11 MR. CANDLES: Your Honor, I think
12 counsel may want to approach. I would like
13 to put up a copy of the questionnaire used
14 as a demonstrative.
15 (Whereupon, there was an off-the-record
16 discussion at the bench.)
17 Q Doctor, I am going to take a look at the
18 screen with the Court's permission.
19 Let's start with the first page.
20 Doctor, is this the questionnaire that was used in
21 that study?
22 A This is.
23 Q I notice a number of boxes. Did this study
24 ask about a wide array of background information?
25 A Right. It asks for a basic demographic

SK

6045

1 Dr. Bradley-direct/Candles
2 information from an individual such as age, race,
3 sex, marital status and other factors.
4 Q Let's just look at page two, and I would
5 just like for you to tell us if it also asks about a
6 person smoking?
7 A Right. There was extensive questions on a
8 person's smoking history.
9 Q Under habits?
10 A Right, under habits.
11 Q Let's zoom in on that.
12 So what were just a few of the sample
13 kind of questions asked about smoking?
14 A First of all, whether or not you smoked and
15 if you did, how many hours a day you did, where you
16 smoked; it asked how much you inhaled, it asked
17 several questions about the brand of cigarette you
18 smoked and the type of cigarettes, whether regular,

19 menthol, kings and so on.
20 And then when you quit smoking.
21 Questions like that.
22 Q Doctor, I just want to ask you, is this
23 study relied on in the scientific community
24 including the government agencies and other sources
25 for analyzing risks?

SK

6046

1 Dr. Bradley-direct/Candles
2 A Yes. In fact, the Surgeon General has used
3 it in several reports.
4 Q What type of analysis for this case did you
5 perform with that data?
6 A I went and gathered a group of people in
7 that study that were similar to Mr. Anderson and his
8 smoking history.
9 Q How did you do that?
10 A You go through it and put in their length
11 of time since they quit smoking, the age at which
12 they would have stopped smoking a particular brand.
13 MR. FINZ: May we approach, please?
14 (Whereupon, there was an off-the-record
15 discussion at the bench.)
16 THE COURT: You took a group from the
17 study?
18 THE WITNESS: Yes.
19 Q And you were talking about how you did that?
20 A Right. You just put in the parameter,
21 define it down as narrow as you can to define it to
22 Mr. Anderson until you pull out a group of
23 individuals and see what their lung cancer rates
24 were among the pool of these people.
25 Q Did you use generally accepted statistical

SK

6047

1 Dr. Bradley-direct/Candles
2 methods to select this group?
3 A Yes.
4 Q Now, did you look at any other sources of
5 information to perform your analysis?
6 A That's what I used for this particular
7 analysis.
8 Q Okay. Now, when you talk about comparing
9 groups, can you tell us just a little more about
10 what you mean by that?
11 A What I am going to do is take the group of
12 individuals that are called a cohort which are
13 similar to Mr. Anderson, and we're going to check
14 their lung cancer rates for study and then take the
15 people that did not smoke and compare the two to see
16 if there is an association or not.
17 Q Is this the same sort of analysis showing
18 us the different people and the three --
19 A Right. Those simplified exhibits are the
20 type of analysis we're talking about here.
21 Q Did you prepare an exhibit in preparing
22 your analysis for Mr. Anderson?
23 A Yes.

24 MR. CANDLES: If we can bring this up
25 for Court and counsel, with the Court's

SK

6048

1 Dr. Bradley-direct/Candles
2 permission.
3 THE COURT: I would like a foundation
4 set before we bring this up.
5 MR. CANDLES: Okay.
6 Q Now, you said you took two groups; is that
7 correct?
8 A Correct.
9 THE COURT: What would these -- I am
10 not concerned about the non-smoking
11 comparison group. That's obvious.
12 Q Describe for us a little more how you put
13 together the --
14 A This particular group were people that
15 would have stopped smoking between the age of 20, 25
16 and would have not smoked for 30 or more years.
17 THE COURT: How does that relate to Mr.
18 Anderson?
19 THE WITNESS: He had smoked the
20 Lorillard and Phillip Morris brands during
21 the period when he was 20, 25, quit smoking
22 them and didn't --
23 THE COURT: Is your testimony that he
24 did a third brand for another 30-some-odd
25 years?

SK

6049

1 Dr. Bradley-direct/Candles
2 THE WITNESS: That is correct.
3 THE COURT: I am trying to find out
4 what is the comparison of people that
5 stopped at 25.
6 THE WITNESS: He quit smoking these
7 brands at 25.
8 THE COURT: Do you think there is a
9 statistical correlation between somebody who
10 switches brands and someone that stops
11 smoking?
12 MR. CANDLES: Let's approach, your
13 Honor.
14 (Whereupon, there was an off-the-record
15 discussion at the bench.)
16 Q Why is it that you selected criteria of
17 people that stopped smoking in their mid twenties?
18 A Because that's the last time he smoked
19 either the Lorillard or the Philip Morris brand.
20 MR. FINZ: I object to that, your
21 Honor, no foundation.
22 THE COURT: I'll allow it. Go ahead.
23 And for the purpose of your comparison
24 you assumed he stopped smoking, period,
25 because that's a comparison.

SK

6050

1 Dr. Bradley-direct/Candles
2 THE WITNESS: That is correct.
3 Q Doctor Bradley, were you asked to examine
4 what the increased risk, if any, would be of his
5 smoking of Kent brand cigarettes and Parliament
6 brands cigarettes? Were you asked to do that?
7 A Yes, I was.
8 Q And to follow-up on your Honor's question,

9 I am going to lead here, was that why you picked
10 that cut off day for smoking?
11 A That is correct.
12 MR. CANDLES: Can we show the overhead,
13 your Honor?
14 MR. FINZ: I object to this and we have
15 to approach.
16 (Whereupon, there was an off-the-record
17 discussion at the bench.)
18 (Whereupon, Mark Bowin relieved Steven
19 Karlin as the reporter.)
20
21
22
23
24
25

SK

6051

1 Bradley-Direct/Randles
2 Q What was the rate of lung cancer among
3 the nonsmoking group?
4 A About 14 per 100,000.
5 Q 14 per 100,000.
6 What was the rate of lung cancer in
7 Mr. Anderson's group?
8 A Ten per 100,000.
9 MR. FINZ: I'm going to object to all
10 of this, your Honor. No foundation.
11 THE COURT: I'll allow it. Go ahead.
12 Q And what, if anything, were you able to
13 conclude about the statistical association between
14 a group who smoked roughly the amount Mr. Anderson
15 smoked of Kent and Parliament brand cigarettes that
16 type of time ago and whether it would increase the
17 risk of developing lung cancer?
18 MR. FINZ: Objection. Objection,
19 your Honor.
20 THE COURT: I already ruled on it.
21 Let's go.
22 A I concluded there was no association,
23 since the lung cancer rate for Mr. Anderson's
24 cohort group was less than that of the nonsmoking
25 group.

6052

1 Bradley-Direct/Randles
2 THE COURT: Counsel, what else you
3 got?
4 Q Based upon your analysis of these two
5 groups and Mr. Anderson's group's lack of
6 statistical association with any increased risk of
7 developing lung cancer, would the use of Kent brand
8 cigarettes and Parliament brand cigarettes, for the
9 length of time Mr. Anderson indicated he smoked
10 them, had increased his risk for developing lung
11 cancer at all?
12 A No.
13 MR. FINZ: Objection, your Honor. No
14 foundation.
15 THE COURT: I'll allow it.
16 Q Would you repeat your answer, please?
17 A No.
18 Q And what, if anything, scientifically

19 speaking, and using generally recognized scientific
20 principles, does the lack of statistical
21 association between use of Kent brand cigarettes
22 and Parliament brand cigarettes mean with respect
23 to causation of his lung cancer?

24 MR. FINZ: Objection, your Honor.

25 THE COURT: Sustained.

6053

1 Bradley-Direct/Randles

2 I think we've covered it. What else
3 do you have?

4 MR. RANGLES: Next overlay. I'll put
5 it up for Court and counsel. I want to
6 ask him about this statement.

7 THE COURT: Is there a distinction
8 between the two answers?

9 Let's go on, Counsel. We don't
10 need --

11 MR. RANGLES: It's a slightly
12 different point. There's no
13 disagreement, but it's a different point.

14 (Discussion at the bench off the
15 record.)

16 MR. RANGLES: Okay. Can we show
17 that, your Honor?

18 THE COURT: No, I don't want to show
19 that. I want you to develop it.

20 Q Doctor, I'd like you to assume
21 Dr. Feingold testified in this courtroom --

22 THE COURT: Why don't you ask him the
23 same series of questions: If he had
24 smoked till 1969, till the end of '69.

25 MR. RANGLES: Let me try it this way,
6054

1 Bradley-Direct/Randles

2 your Honor.

3 Q Based upon your review of the CPS-II
4 study, if Mr. Anderson had stopped smoking in 1969,
5 would it be more likely than not he would have
6 developed lung cancer?

7 MR. FINZ: I'm going to object to
8 that, Judge.

9 THE COURT: I'll allow it.

10 A Yes. He would not have developed lung
11 cancer.

12 Q I stuck an extra negative there.
13 Would it be more likely than not he would
14 have developed lung cancer if he had quit smoking
15 in 1969?

16 MR. FINZ: Objection, your Honor. No
17 foundation.

18 THE COURT: Well, assume also he
19 continued smoking another brand. Is that
20 the --

21 MR. RANGLES: No.

22 MR. FINZ: No foundation.

23 THE COURT: Then I don't understand.
24 Then I don't understand why you put
25 Feingold's question on. I'm at a loss.

6055

1 Bradley-Direct/Randles

2 (Discussion at the bench off the
3 record.)

4 Q Okay. Try again, Doctor.
5 If Mr. Anderson had smoked in the '60's
6 but quit smoking in 1969, would it --
7 THE COURT: And smoked --
8 MR. RANGLES: That is my question.
9 THE COURT: Instead of your -- your
10 first postulate was that he stopped after
11 two years.
12 THE WITNESS: That's correct.
13 THE COURT: Now we're asking you to
14 assume he smoked until 1969 and then
15 stopped.
16 THE WITNESS: Correct.
17 THE COURT: Is that what your
18 question is?
19 MR. RANGLES: Exactly the question.
20 THE COURT: Go ahead.
21 Q If he had started when he claims in 1961
22 and smoked until 1969 and then quit, would he have
23 had any increased risk of developing lung cancer?
24 MR. FINZ: Objection, your Honor.
25 There's no foundation for that.

6056

1 Bradley-Direct/Randles
2 THE COURT: I'll allow it.
3 A It's more likely than not that he would
4 not have developed lung cancer.
5 Q And if --
6 THE COURT: That doesn't answer the
7 question.
8 Q Would he have been at any increased risk?
9 A He might have been at some increased
10 risk.
11 Q Would it have been more likely than not
12 he would have developed lung cancer?
13 MR. FINZ: Objection, your Honor.
14 THE COURT: No. Sustained. There
15 are statistical numbers for this.
16 MR. RANGLES: Right.
17 THE COURT: What are they?
18 THE WITNESS: Well, it's gonna be --
19 I don't remember exactly, offhand, but
20 the risk is slightly elevated.
21 MR. FINZ: May we step up here,
22 please?
23 THE COURT: I know. They're right
24 here.
25 (Discussion at the bench off the

6057

1 Bradley-Direct/Randles
2 record.)
3 MR. RANGLES: Your Honor, I can get
4 us off this. May I, your Honor?
5 THE COURT: Yes, please.
6 MR. RANGLES: Thank you.
7 Q Doctor, I want you to assume that
8 Dr. Feingold testified in this Court on May 10th of
9 2000 as follows:
10 Based upon the statistics that you just
11 told us, if Mr. Anderson quit smoking in 1969, it's
12 more likely than not he would not have developed
13 lung cancer when he did.
14 Dr. Feingold answered: More likely than

15 not, I agree.
16 If that was Dr. Feingold's testimony,
17 would you agree with him on that?
18 A I would agree with him on that.
19 MR. RANGLES: I have no further
20 questions.
21 MR. FINZ: Judge, may we have a very
22 short recess for personal reasons? Very
23 short recess.
24 THE COURT: We'll take a very short
25 break. You can step down also.

6058

1 Bradley-Direct/Randles
2 (Witness and jury leave the
3 courtroom. Recess taken.)
4 THE COURT: On the record.
5 MR. FINZ: Your Honor, I would at
6 this time move that the entire testimony
7 of Dr. Bradley be stricken on the basis
8 that there's no foundation for any of the
9 conclusions that he's reached.
10 Furthermore, with respect to his last
11 response, which takes the smoking history
12 up until 1969, he has made no study. His
13 testimony can only be regarded, even in
14 its most favorable light, as being the
15 highest type of speculation.
16 THE COURT: On the last one, he's
17 agreeing with your witness; makes no
18 difference.
19 Let's go. Bring in the jury.
20 (Jury enters courtroom.)
21 (Witness enters the courtroom,
22 resumes the stand.)
23 THE COURT: Counsel, you may
24 continue.

25 CROSS-EXAMINATION

6059

1 Bradley-Cross/Finz
2 BY MR. FINZ:
3 Q Good afternoon, Dr. Bradley.
4 A Good afternoon.
5 Q Dr. Bradley, forgive me, but I didn't
6 catch -- you're from Alabama; is that correct, sir?
7 A That's correct.
8 Q You're a former professor emeritus --
9 you're presently a professor emeritus; is that
10 correct?
11 A That's correct.
12 Q I think you left the university sometime
13 in 1997; is that correct?
14 A October of '97.
15 Q And you said you did have a full-time
16 position outside of the University at that time; is
17 that right?
18 A No, I do have now full time outside the
19 university.
20 Q You've had a consulting business since
21 1981; is that right?
22 A That's correct.
23 Q So am I correct in saying that for 19
24 years, you held yourself out to lawyers and other
25 litigation people as a witness; is that right?

1 Bradley-Cross/Finz
2 A That's part of what I do, yes.
3 Q And you've testified -- this is the third
4 tobacco trial in which you've testified; is that
5 right?
6 A That's correct.
7 Q And you've always testified for the
8 tobacco defendants and never for any plaintiff; am
9 I right?
10 A That's correct.
11 Q Now, sir, you were asked about certain
12 tests that you had performed. Remember you spoke
13 about the CPS-II; is that right?
14 A Yes, I did.
15 Q So that we know what the CPS-II is,
16 actually, CPS stands for "Cancer Prevention Study;"
17 is that right?
18 A Cancer Prevention Study II.
19 Q This involved a large grouping of
20 population; is that right?
21 A About --
22 Q About a million?
23 A About 1.2 million.
24 Q Out of that, there was a breakdown
25 between the smokers and the nonsmokers to see what

6061

1 Bradley-Cross/Finz
2 kind of results would come out of such a study; is
3 that right?
4 A That's one breakdown; that's correct.
5 Q And it was -- am I correct, sir -- this
6 is over a six-year period of time, right?
7 A Well, the last fellow they had -- 8 -- a
8 six-year followup.
9 Q It was a six-year period of time?
10 A Followup from when they entered into the
11 study.
12 Q In other words, when they started the
13 study, it's a prospective study, which means you
14 have to look to the future?
15 A Correct.
16 Q And now they followed it for six years?
17 A Correct.
18 Q That's what I meant. "Retrospective"
19 would be looking backwards, looking at autopsies
20 and people who died?
21 A That is one type of retrospective.
22 Q In this case, it was a prospective study
23 that looked six years to the future; is that right?
24 A That's correct.
25 Q The study itself had the advantage of now

6062

1 Bradley-Cross/Finz
2 looking at these questionnaires. Now, this
3 questionnaire that was flashed on the screen was
4 not a questionnaire that was made for Clyde
5 Anderson, is it?
6 A Pardon?
7 Q That questionnaire was not a
8 questionnaire that was made for Clyde Anderson, was
9 it?
10 A Well, it was developed by the ACS for

11 entering people into the study.
12 Q But it was not a questionnaire that was
13 prepared for this case, specifically.
14 A That's correct.
15 Q It was a questionnaire that had been used
16 by the CPS study showing that six-year period of
17 time; is that right?
18 A That's correct.
19 Q Now, there were certain results that came
20 out of that study, right?
21 A Yes, sir, there are.
22 Q And one of the results was that it was
23 found that there was a much higher rate of lung
24 cancer amongst smokers than amongst nonsmokers; is
25 that right?

6063

1 Bradley-Cross/Finz
2 A That's correct.
3 Q And, as a matter of fact, the rate was
4 many, many times greater; am I correct?
5 I'll get to the amount in just a moment,
6 right.
7 A Well, "many, many times" is --
8 Q Means a lot to different people. I know
9 that. So let's break it down a little, all right?
10 Now, during this study, there were
11 approximately 77 people who died -- from the
12 nonsmoking group -- of lung cancer; is that right?
13 A No, there's more than that.
14 Q During the study. More than that?
15 A Yes.
16 Q How many were there?
17 A Probably a total of 124, 150; I don't
18 remember the exact number.
19 Q Well, perhaps we might have been reading
20 two different studies. Okay. Would you agree,
21 sir, that the number of deaths in the smoking group
22 was in excess of 1,300?
23 A I don't remember the exact number, but it
24 was in excess of 1,000. I remember that.
25 Q Would it be in excess of 1,300?

6064

1 Bradley-Cross/Finz
2 A It may be.
3 Q So if we take just a percentage of either
4 77, which may be a figure that I may be in error
5 in, or we take -- what did you say -- about a
6 hundred or so?
7 A 125. Something like that.
8 Q In any event, whatever figure we take,
9 can we agree that we're talking about something
10 that smokers have at least an -- 11 percent if we
11 accept your figures, to -- 11 times, not
12 11 percent; 11 times greater probability of lung
13 cancer, if you're a smoker, if we accept your
14 figures -- if we accept my figures, then it comes
15 to almost 16 or 17 times greater than the
16 nonsmoker, correct?
17 A Well --
18 Q Will you say -- can you say yes or no to
19 that?
20 A You're taking just the numerators out of
21 these numbers. You're not taking the denominators.

22 Q Let me do it my way.
23 THE COURT: What did the studies show
24 as to the rates -- the cancer rate
25 between smokers and nonsmokers? The
6065

1 Bradley-Cross/Finz
2 mortality rates; what did it show?
3 THE WITNESS: For males, I believe
4 the rate is about 22 to 1.
5 THE COURT: And for females --
6 THE WITNESS: 22 to 1.
7 THE COURT: Why don't you take his
8 number?

9 Q Sir, would this refresh your memory, that
10 there were 77 lung cancer deaths in the
11 never-smoker class?

12 A I disagree with that. There are more
13 than that.

14 Q You disagree with that statistic?

15 A I disagree with that.

16 Q All right, sir. And, sir, do you
17 disagree also with the figure that there were 1,333
18 lung cancer deaths --

19 MR. KACZYNSKI: Your Honor, could we
20 have the document so we can look at it?

21 THE COURT: I believe it's his notes.

22 MR. RANGLES: I'd like to know what
23 he's showing the witness. We're entitled
24 to see it.

25 THE COURT: When it's your turn, you
6066

1 Proceedings
2 may ask for it. Counsel, he said it's 20
3 plus times. Why are you going further?
4 There must be a reason.

5 MR. FINZ: No, there is no reason,
6 Judge.

7 I'm going to go further.

8 Q Now, in any case, sir, did you ever make
9 any studies with respect to nicotine dependence?

10 A No, I did not.

11 MR. FINZ: I have no further
12 questions.

13 Thank you.

14 MR. RANGLES: I have no questions.

15 Thank you, Dr. Bradley.

16 (Witness excused.)

17 (Discussion at the bench off the
18 record.)

19 THE COURT: It is called, "good
20 evening."

21 Wait. I want to talk to you for a
22 minute. I have not been overly draconian
23 in the number of admonitions that I have
24 given you, but I think it's time for at
25 least a reminder.

6067

1 Proceedings

2 Again, this becomes harder and harder
3 because there's just so much news about
4 this stuff all over the place that you
5 could be reading a nice little article
6 about A or B and all of a sudden you see

7 this issue; and I understand your
8 consternation about being separated from
9 the real world.

10 But I must again emphasize to you
11 about not discussing this case, not
12 reading or hearing any of the publicity.
13 It becomes important that the case be
14 argued based on the evidence in this
15 Court to you and not about other factors
16 which are played out in the press.

17 And as I get further along in the
18 trial, I become much more sensitive about
19 that kind of stuff because that would be
20 unfair both to the plaintiff and the
21 defendants to have a decision in this
22 case based on something other than the
23 evidence in this case.

24 Now, I also have discharged --
25 basically because they were not feeling

6068

1 Proceedings
2 well -- a number of jurors and want to
3 make sure that there's no discussion
4 between you and those folks because the
5 flavor might become unwholesome.

6 Wait until after this trial. We
7 don't have all that much. We're
8 certainly going downhill rapidly now.
9 Remember sledding. It always got faster
10 as you reached the bottom, just like the
11 apple.

12 That's not quite accurate, but you
13 know what I'm talking about. Sleds do
14 tend to go faster downhill as they go
15 further downhill.

16 You haven't had a scientific
17 explanation, but we might get one before
18 we're finished; and if we do, I'm going
19 to throw somebody out of the courtroom.
20 We're not going to get one; I hope not.

21 Anyway, again, I'm not going into my
22 admonitions completely. You've heard
23 them before.

24 Because of the nature of this case,
25 the publicity issue and the

6069

1 Proceedings
2 conversations, everybody has an opinion.
3 They haven't heard what you've heard, but
4 everybody has an opinion, you see. And
5 when this is over, probably your opinion
6 will be as valid as any expert in the
7 field because you've heard it all or very
8 close to all or the substantial part of
9 it all.

10 Anyway, have a pleasant evening.
11 9:45 tomorrow. Thanks, everybody.

12 (Jury leaves the courtroom.)

13 MR. KACZYNSKI: I've got one
14 evidentiary matter before Dr. Von Berg
15 testifies. Well, we could do it on the
16 record.

17 MR. LONDON: I'd like to see the

18 document. I was just handed a pile --
19 Thank you.
20 MR. KACZYNSKI: Here.
21 The document at issue -- first of
22 all, everything we've designated is
23 either, like, literature that will not be
24 offered but just relied on and quotes
25 will be shown to the jury, much like

6070

1 Proceedings
2 Dr. Feingold did or its MSDS's that are
3 already in evidence.
4 THE COURT: M-D?
5 MR. KACZYNSKI: Material Safety Data
6 Sheets.
7 MR. LONDON: Judge, that brings us to
8 another point with these MSDS sheets. We
9 have heard no causation linking these
10 alleged chemicals to his cancer.
11 MR. FINZ: And there will be none.
12 THE COURT: I'm sure there will be
13 none. We've heard all the testimony.
14 MR. LONDON: It's prejudicial.
15 THE COURT: Well, that's why you have
16 cross-examination.
17 MR. KACZYNSKI: I'm offering
18 Exhibit --
19 THE COURT: You're going to do this
20 very succinctly, this testimony.
21 MR. KACZYNSKI: Oh, yes.
22 THE COURT: I don't want to spend two
23 days with this.
24 MR. KACZYNSKI: No. He's a two-hour
25 witness. Even before you cut him, he's a

6071

1 Proceedings
2 two-hour witness.
3 I want to offer A1838. It's a
4 government NIOSH alert from 1996 dealing
5 with diisocyanates. It was not objected
6 to during the process of --
7 THE COURT: Is there an objection
8 now?
9 MR. FINZ: Your Honor, unless this is
10 connected in some causation fashion.
11 THE COURT: I'm having a major
12 problem with this.
13 MR. FINZ: Then where are we? We're
14 hanging out there.
15 MR. KACZYNSKI: Your Honor, this
16 is --
17 THE COURT: I prefer, very frankly,
18 not to create something for them to
19 appeal.
20 MR. FINZ: I appreciate that, Judge,
21 and I'm very sensitive to your Honor's
22 sensitivity on that subject.
23 THE COURT: I'm not looking for it.
24 But I want you to put your strenuous
25 objection to the lack of connection on

6072

1 Proceedings
2 the record.

3 I'm going to allow it, but I think
4 we've had testimony that the only
5 linkages to human lung cancer has been
6 from asbestos and cigarettes, and that's
7 what your cross has been.
8 MR. KACZYNSKI: That's not true. All
9 those MSDS's say those chemicals are
10 carcinogenic.
11 THE COURT: That's not what I said.
12 MR. KACZYNSKI: And, and I would
13 add --
14 THE COURT: You folks have given me a
15 definition between carcinogenic and
16 production of cancer in humans.
17 MR. KACZYNSKI: "Carcinogenic" means
18 it's possible to produce cancer in
19 humans. We will ask the toxicologist
20 what it means.
21 MR. FINZ: He's not even a doctor.
22 MR. KACZYNSKI: He's a toxicologist.
23 MR. FINZ: He's a Phd, Judge.
24 THE COURT: I understand. And you'll
25 let us know, of course, is there any

6073

1 Proceedings
2 epidemiological statements of any kind
3 linking these to cancer in humans. Are
4 there?
5 MR. KACZYNSKI: That's the basis on
6 which the National Toxicology Program,
7 OSHA, NIOSH -- it's based precisely on
8 that.
9 THE COURT: Why didn't you introduce
10 it? It's not the same thing.
11 I have no problem putting it that
12 they are carcinogenic, but with how much
13 exposure -- usually -- look, you've
14 managed to be short. I want you to be
15 long this time.
16 MR. FINZ: Okay, Judge. I just don't
17 want -- I don't want --
18 MR. KACZYNSKI: Please.
19 MR. FINZ: Are you through with that?
20 MR. KACZYNSKI: No, I'm not through
21 with that.
22 MR. FINZ: Let me just respond to his
23 Honor.
24 Your Honor, I just don't want to give
25 the impression to this jury that what

6074

1 Proceedings
2 this doctor has to say is something that
3 deserves that much attention because what
4 he's going to say deserves very little
5 attention purely because there's going to
6 be absolutely no causation.
7 The fact there are carcinogens in
8 chemicals is --
9 THE COURT: Taken for very short
10 periods of time.
11 MR. KACZYNSKI: No, no, not at all.
12 Unprotected exposure --
13 THE COURT: Which carcinogen is taken

14 over a longer period of time than the
15 period of time -- you just asked this
16 witness between '62 and '61; '69, how
17 many carcinogens --
18 MR. KACZYNSKI: Every job he had
19 involved carcinogens.
20 THE COURT: You're not listening to
21 me.
22 MR. KACZYNSKI: I understand.
23 THE COURT: Which one --
24 MR. KACZYNSKI: It's not one.
25 THE COURT: No. I mean, that's the

6075

1 Proceedings
2 question.
3 MR. KACZYNSKI: By the way, your
4 Honor, it's not my burden to disprove --
5 THE COURT: Why don't you ask --
6 MR. KACZYNSKI: It's not my burden of
7 proof to disprove causation. It's his
8 burden to prove it.
9 This testimony goes to rebut his
10 testimony; not affirmative proof.
11 MR. FINZ: Your Honor, any testimony
12 of any expert, as everybody in this room
13 knows, must have causation. There must
14 be a foundation for that question.
15 THE COURT: Ask the question.
16 MR. FINZ: You want me to ask it?
17 THE COURT: Not now; not to me. The
18 witness. The witness. Ask the question.
19 MR. FINZ: Of course, I will, your
20 Honor. You know that.
21 MR. KACZYNSKI: Your Honor, all this
22 was prompted by seeking to admit A1838.
23 THE COURT: Of course.
24 MR. KACZYNSKI: Thank you, your
25 Honor.

6076

1 Proceedings
2 MR. FINZ: Then why can't he do this?
3 THE COURT: What is A1838? Has it
4 been objected to?
5 MR. LONDON: Yes, it has, your Honor.
6 MR. KACZYNSKI: No, it hasn't; not in
7 the months you had to object, it hasn't.
8 MR. LONDON: We're objecting to
9 Dr. Von Berg's documents tomorrow
10 morning, your Honor, before his
11 testimony; the reason being we thought
12 the defendants would properly establish
13 medical causation between these
14 chemicals. These MSDS sheets, they have
15 failed to establish any causation that
16 whatever chemical Mr. Kaczynski --
17 MR. KACZYNSKI: That's not my burden.
18 MR. LONDON: Yes, it is, your Honor.
19 They're going to say: The air in
20 Brooklyn; the dust at Manischewitz
21 Wine --
22 THE COURT: The wine.
23 MR. LONDON: The wine caused Clyde's
24 cancer. They're not going to link it.

25 They have a burden --

6077

1 Proceedings

2 MR. KACZYNSKI: I have no burden on
3 causation.

4 THE COURT: Look, as far as I'm
5 concerned, if you ask me for an
6 instruction to the jury at the end of
7 this, I'll give them. I think that this
8 has got to be connected to him in some
9 fashion.

10 MR. FINZ: Exactly. And they're not
11 going to be able to do that.

12 THE COURT: I'll give it to them at
13 the time. You have to, by your
14 cross-examination, indicate that there's
15 no doctor medically connecting any of
16 this with his cancer.

17 I assume there won't be.

18 MR. FINZ: That's what we're told,
19 your Honor. We're told that we're going
20 to finish this Thursday with
21 Dr. Phillips, who is a psychiatrist, and
22 that's it.

23 THE COURT: What about Wednesday?

24 MR. FINZ: And Wednesday there's
25 going to be another historian on the

6078

1 Proceedings

2 public awareness.

3 MR. KACZYNSKI: Well, the public
4 awareness --

5 MR. FINZ: We're going to hear a lot
6 of newspaper articles again.

7 MR. KACZYNSKI: That's right.

8 MR. FINZ: That's the case.

9 THE COURT: That's a question you
10 didn't ask him: If the scientists were
11 in this controversy -- you got to ask
12 somebody that.

13 MR. LONDON: You ask the newspaper.
14 How could it be clear for the newspaper
15 public and not the scientists.

16 THE COURT: Then you can say the
17 stories that hit the public were not
18 worthy of belief.

19 MR. SHEFFLER: Your Honor, you did
20 sustain an objection whenever he was
21 asked about was this publicly discussed.
22 He says "it was my understanding;" you
23 sustained the objection.

24 THE COURT: That's not the question I
25 postulated.

6079

1 Proceedings

2 MR. LONDON: Was that admitted, 1838?

3 THE COURT: What is that? Was that
4 objected to by you?

5 MR. KACZYNSKI: Never.

6 MR. LONDON: Today.

7 And it will be in written objections
8 tomorrow morning.

9 MR. FINZ: Judge, it's a pure hearsay

10 document.
11 MR. KACZYNSKI: It's a Government
12 report from the National Institute of
13 Occupational Safety and Health.
14 MR. FINZ: So what does that mean?
15 THE COURT: What does that mean?
16 MR. KACZYNSKI: It's a Government
17 report.
18 THE COURT: I may have no problem
19 with it.
20 MR. FINZ: Judge, let me take the
21 risk. I would say I'm going to object to
22 that on a hearsay basis; and let me risk
23 it, Judge. There's no way I can confront
24 that document anyway.
25 THE COURT: What is biocyanates

6080

1 Proceedings
2 (phonetic)?
3 MS. ROOSEVELT: Diisocyanates.
4 MR. KACZYNSKI: Which the MSDS's
5 indicate were in the chemicals Clyde
6 Anderson used for bathtub refinishing.
7 THE COURT: I don't think I'll allow
8 it in, but I'll allow you to refer to it.
9 MR. FINZ: Okay.
10 (Trial adjourned to June 13, 2000.)
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